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ART. I. *Annual Address delivered before the Medical Society of the State of New-York, Feb.* 6, 1828. By T. ROMEYN BECK, M. D. President of the Society.

MR. VICE-PRESIDENT, AND
GENTLEMEN OF THE SOCIETY,

THE honourable office to which I have been called by your suffrages, imposes on me the duty of addressing you. I enter upon it with a proper sense of its responsibility, and an anxious, though it may be, a fruitless wish, that I may not diminish the reputation which similar productions of my esteemed predecessors have acquired for us. Among those who have formerly filled the office of President of this Society, are to be numbered men of powerful intellect—of unwearied public spiritedness—venerable for their useful lives, and entitled to the gratitude of the profession and the public, for their exertions to diffuse the benefits of our science, and to raise its disciples to that station to which its liberal studies entitle it. I can only hope for a participation in the last of these qualifications—an anxious wish to elevate the character of our common profession.

Amidst the multiplicity of subjects that present themselves for selection, and which might with propriety be noticed at this time, I have ventured to choose one, which I trust will commend itself to your attention. While its connexion

with those branches of medicine to which I have particularly devoted myself, enables me to speak of it with more freedom, it will not be deemed unworthy of your notice, as it embraces not only the interests of the profession, but of the community in general: I refer to the subject of MEDICAL EVIDENCE in courts of justice.

Besides the ordinary, but responsible and most interesting duty of attending the sick, the physician and surgeon is often called upon to exercise other functions. His opinion is often desired on cases of sudden death—of grievous bodily or mental injury—or on the nature of particular diseases and affections. This indeed was the natural result of a regard to the interests of society. As the importance of equal laws became more fully recognised, and the necessity of distributing impartial justice was more fully understood, it would soon suggest itself to the legislator, that whenever evidence was required, it should be of the most unexceptionable and decisive kind. When the controversy originated in mercantile disputes, the opinions of merchants were of course sought for and depended on; and their customs and usages have become a part of the statutes of various countries. So also when unexpected death followed from known or supposed injury—when the suspicion of violence entered into the list of causes, it was natural, that sooner or later, those should be called upon to examine and testify, whose ordinary studies and pursuits best enabled them to decide. We find that it is now nearly three centuries since a formal enactment in a European code recognised this principle. The emperor Charles the Fifth, the most powerful and probably the most talented monarch of his day, in the celebrated criminal code framed by him at Ratisbon, in 1532, ordained, that the opinion of medical men should be taken in every case where death had been occasioned by violent means, such as child-murder, poisoning, wounds, hanging, drowning, and the like.

France and other continental countries soon followed this example, and improved upon its directions. In England, the country from which we derive our laws, no formal statu-

tory provision on this subject is, I believe, to be found; but custom has sanctioned what the necessity of the case rendered imperious—an appeal to medical testimony. Yet it cannot be denied, that this appeal is still avoided as often as public sentiment will permit, and even when legally ordered, its proper objects are often thwarted or imperfectly accomplished. The principle, however, is recognised, and must often be acted upon both there and in this country. It then becomes a most interesting question, how it should be best performed for the furtherance of the ends of justice—in punishing the guilty and rescuing the innocent—how the obstacles to its proper knowledge shall be best obviated—and how the difficulties that attend its execution may be lessened or removed.

In cases of violent death, and these are the most important, as well as the most common, in which professional witnesses are summoned, their duties may be considered under two divisions—first, before the coroner's inquest, and secondly, before the court and jury that is to try the supposed criminal. In other words, the facts that are to govern, are elicited before the former, while before the latter, these facts are to be stated and opinions are to be advanced, which frequently decide the fate of the accusation. This is the ordinary mode of judicial proceeding, though of course it is often necessary to pronounce an opinion even before the coroner's jury, but with the important distinction, that its merits and weight are there seldom canvassed.

The office of coroner is a very ancient and certainly a very important one. It enters into the very essence of his duties, and those of the jury whom he summons, to *view the body.* He is to inquire into the causes which have produced the supposed violent termination of life; and if the injury be manifest, to ascertain its nature and the probable instrument used to effect it. In the discharge of this function, he *may* summon any medical man before him as a witness. That he *should* do it, in every case which admits of the slightest doubt, would seem equally proper and just. Here, however, a discretion is often exercised, the result of which proves in-

jurious—sometimes by permitting a guilty person to escape, but more frequently by introducing a degree of carelessness and hurry in those investigations which are attended by physicians. In some countries this discretionary power is destroyed. In Austria, though a despotic country, a highly laudable care is exercised by the government over its subjects. All bodies found in suspicious circumstances, are required to be examined, reports are demanded from the medical inspectors, and to aid them in their duties, a code of regulations has been prepared and circulated throughout the empire, according to which all are to proceed.* This, indeed, is as it should be. None but medical men can be supposed sufficiently capable of judging decisively of the nature of the case. They are best qualified to separate accidental circumstances from those indicative of violence, and they can best explain and illustrate the variety of natural causes, which, in doubtful situations, have led to suspicion.

Returning, however, to the consideration of those instances where medical evidence is legally demanded, it remains to consider the *powers* and *duties* of the professional witness. It should be understood that he is to satisfy himself as to the *cause of death*. He is to proceed to a dissection, if he entertains the slightest doubt; and he has a right to demand this, or, as an alternative, to deny his testimony.† At the present day, physicians at least, need not be told that an external view alone of the body is perfectly nugatory; that it can lead to no certain deductions, and that a jury is quite as competent to form an opinion upon it as the best

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* Quarterly Journal of Foreign Medicine and Surgery, 1. p. 40.

† London Medical Repository, 24. 578. It has been doubted, whether in point of law, it is *imperative* on a coroner to have the body opened.—This, however, is of little practical importance, when we know he cannot *prevent* it, if demanded by competent persons, viz. medical witnesses. His jury is sworn "diligently to inquire and true presentment make," *how and in what manner* the deceased came to his death.—*Medico-Chirurgical Review*, 6. 562.

instructed practitioner. If it be the duty of judicial officers to obtain in all cases, the *best* evidence in their power, surely the necessity of medico-legal dissections will not be denied.*

The *duties* required cannot be satisfactorily or conscientiously discharged without competent knowledge. An acquaintance with anatomy is indispensably necessary, and peculiarly so in those interesting cases, where it is necessary to distinguish the effects of disease or violence from ordinary appearances. Unless well grounded in that science, the phenomena that follows natural death may be mistaken for the effects of poison; and in illustration of this, I need only refer to the changes induced by perforation of the stomach, and the variety observed in the vascularity of that organ.—Anatomy, then, both physiological and pathological, must be applied to the case. Nor is this always sufficient. If the question of poisoning be agitated, chemistry is required to lend its aid.

None, I presume, will question the correctness of these remarks. Let us not then hesitate to make the proper application. The members of our profession in every part of the

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* I copy the following note of the editor of the Edinburgh Medical and Surgical Journal, from its intimate bearing on the subject. It will be understood as applied to Great Britain.

"We cannot omit this opportunity of expressing our disapprobation of the conduct of coroners, who presume to interrupt the medical practitioner, called upon to examine the cause of death under suspicious circumstances; and of informing practitioners in general that, as soon as the body is delivered over to them for that purpose, they are to proceed deliberately with their examination until they be satisfied. Upon this subject, we quote with great satisfaction, the opinion of the enlightened judge who now presides over the criminal court of this division of the empire. Dr. Cleghorn, of Glasgow, having been examined in a trial for poison, the Lord Justice Clerk, after highly complimenting the learned professor on his luminous evidence, *took occasion to impress strongly on all magistrates and public officers present, the absolute necessity of having the body of the deceased opened and examined by a medical man, in every case of suspicious death.*"—*Edinburgh M. & S. J.* 14. 468.

country, are liable to be summoned, and that on the shortest notice, to take a part in such investigation. Are they—are we—qualified to do justice to them? For myself, I am ready to say, that alone I could never with a free mind undertake a dissection and afterwards appear in court, and give a decisive opinion on the phenomena observed. Others will readily add, that their knowledge of chemistry is not sufficient for making the required experiments. It cannot indeed be otherwise. Medical men are constantly engaged in a most laborious and engrossing occupation—after obtaining their education, their opportunities for pursuing practical anatomy are extremely narrow. Indeed the prejudices of the community, strengthened by the restrictions and penalties of our laws, render it almost impracticable to do more than preserve their early information. The accessary sciences also are only cultivated by a few. Does it not then appear that a duty is required, which in many cases should rather be avoided? I am still confining myself to the preliminary investigation before a coroner, and need only allude to the additional force of these observations when the examiner is transferred to the stand of the witness, and subjected to the inquiries of the bar and the court. How often is a fair reputation and great social worth tarnished by such an event. And would not all prefer having some regulations adopted by which the liability to these appeals might be avoided?*

I have no novel proposition to offer on this subject. It is one that has been sanctioned by the experience of several continental countries, and has certainly led to the distribution of equal justice. It has done more. In the opinion of competent judges, it has led to the diminution of crimes, evidently from an apprehension of the certainty of their detection. I refer to the appointment of medical men in a county, a district, or a part of the state, who shall be specially charged with this duty.

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* The fact cannot be too distinctly stated, that a *man may be a judicious, correct, and excellent practitioner of medicine, and yet not competent as a witness.*

The first germ of this regulation appears in the German code, which I have already noticed. It has for centuries been the practice in Austria to appoint individuals to superintend these examinations, and to report on them. In 1606, the illustrious Henry the Fourth of France, gave letters patent to his first physician, by which he conferred on him the power of appointing two surgeons in every city and important town, whose duty it should exclusively be to examine all wounded or murdered persons, and to report thereon. It was soon discovered that in many instances, the investigation would be incomplete, unless physicians were associated with them, and accordingly in 1692,this was ordained by the council of state.* The form of the reports to be made by them, and the circumstances to be noticed, make a part of every work now published on the continent, concerning legal medicines.

The advantages of thus designating individuals would seem to be striking and prominent. It would lead to more accurate study of the science. It would afford numerous and favourable opportunities of improving it. It would in a great degree, prevent that disputation about facts, which produces so many unpleasant collisions in courts of justice. It would spare to many, the performance of the most unpleasant duties, often amidst the circle of their practice, and hence liable to injure its extent or impair its usefulness. At present, under existing laws, all are liable to be summoned, yet, as the calls to duty are rare, many neglect to prepare themselves. But under a different order of things, the incumbent, if assigned to a sufficiently large district, would be aware that his aid would be frequently required, and he would properly qualify himself for the task. He would also appear in a judicial capacity, and in the discharge of his appointed duty, and would not be looked upon with that evil eye, which not unfrequently follows for years the physician, who, it is insinuated, might have avoided the inquiry concerning the life of a neighbour.

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* Foderè Medecine Legale, Introduction, Vol. I. p. 32.

It speaks something for the suggestion which I have made, that even in England, wedded as they are to their institutions and averse to borrow from other countries, a wish has sometimes been breathed in its favour by some of her writers.*

It may however be urged, that the time has not yet arrived for such an arrangement. If so, and we are to proceed according to former customs, it certainly appears necessary that examinations of the dead should be made with great deliberation and accuracy. And nothing can be more conducive to this end, than that two or more professional men should be associated together. They will assist each other not merely mechanically, but by suggesting various points of inquiry. While he, who is most skilled in anatomy, is pursuing his dissection, the other may note the appearances as they successively present themselves—and the same course may be adopted while performing chemical experiments. The advantage will thus be attained, of having a complete account prepared at the moment of observation, which may be afterwards reviewed both in coming to a decision on the case and in giving evidence before a jury. We all recognise the utility of discussion, in enabling us to weigh the merits of conflicting arguments, and the application of this may prevent many regrets, as well as prepare the mind for any difficulties that may be suggested. It should be recollected, that the opinion of a medical man before a coroner's jury, may consign an individual to a prison for months, and heap on him the imputation of the most horrid crimes. How necessary then that his decision be strongly fortified by facts and by authority.

When the examination before the coroner is completed, and the charge of guilt is made, the duties of the witness

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*"It is impossible to resist the wish that special qualifications were re-
" quired by law on the part of medical witnesses. There is something of
" this nature on the continent; and though one of the last of my country-
" men who would wish to see the customs and institutions of Great Bri-
" tain shaped according to foreign patterns, yet I think we might in some
" matters take a hint from and improve upon their practice." *Dr. Gordon Smith on Medical Evidence*, p. 103.

are only half completed. He has to appear before another tribunal—to state the facts noticed—the opinion deduced from these facts, and the reasons for that opinion. He may be, and indeed frequently is, called upon to defend them from the objections of other medical witnesses; and above all, he has to undergo a severe and minute inquiry by gentlemen of the bar, whose business it is to invalidate, if possible, all that he has said.

This part of our subject cannot be approached without adverting, with some feelings of professional pride, to the certainty which has been attained in many branches of medical jurisprudence. It is surely no mean exertion of human skill to be brought to a dead body—to examine its morbid condition—to analyze the fluids contained in it—(often in the smallest possible quantities) and from a course of deductions founded in the strictest logic, to pronounce an opinion, which combined circumstances, or the confession of the criminal, prove to be correct.* All this, if properly done, must be accomplished without listening to rumour, and without permitting prejudice to operate. Many, again, have saved the innocent, by showing that accidental or natural causes have produced all the phenomena. And at this time, through Europe, and I may say in this country, there is a numerous band of men who are adding new facts to what we have acquired from former ages—corroborating what was established—simplifying what was complex, and establishing order and exactitude throughout the study.

The first point worthy of recommendation is the importance of stating the facts observed, in plain and perspicuous language. The use of technical terms is often unavoidable, and

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* "It is such duties ably performed, that raise our profession to an exalted rank in the eyes of the world; that cause the vulgar, who are ever ready to exclaim against the inutility of medicine, to marvel at the mysterious power by which an atom of arsenic, mingled amidst a mass of confused ingesta, can still be detected. It does more: it impresses on the minds of assassins, who resort to poison, a salutary dread of the great impossibility of escaping discovery." Quarterly Journal of Foreign Med. and Surgery, Vol. IV. p. 45.

precision and accuracy must be sacrificed, if they be not adopted. But there is a medium in all this. Many parts can be named by their common appellations, and the appearances observed designated by words in ordinary use. The imputation of pedantry is thus avoided, and every aid is given to a clear understanding of the case. The doctrine founded on the facts, should next be mentioned in an unequivocal manner, so as at once to evince the decided belief of the individual in it, and the reasons on which it is established. This becomes the more necessary from the looseness with which some of the most important subjects that can come before criminal courts have of late years been treated, both by the bench and by medical witnesses, in Great Britain. Fluctuations of opinion have appeared, that would, if carried to the extent of which they are susceptible, destroy all certainty in medical evidence. I allude particularly to questions of infanticide and insanity.

It is evident that the charge of infanticide cannot be brought, unless it be previously ascertained that the child was born alive. For several centuries, a decisive proof of this was supposed to be attained in the various phenomena exhibited by the lungs, and particularly their floating in water. No subject has been so thoroughly examined by means of experiments as this. But it was the bad fortune of the hydrostatic test (as it is called) to find an enemy in the late Dr. William Hunter; a man of the greatest eminence in his profession, of no mean talents independent of his professional acquirements, and gifted with a fascinating mode of explaining and enforcing his opinions. He formed an idea that too implicit a reliance on this test might lead to error; that many circumstances might occur to weaken its value, and indeed that other causes besides respiration might produce the particular sign that was deemed indicative of independent life. The melancholy situation of those who were most liable to be charged with the crime of child-murder, gave an adventitious weight to his objections, and they formed the theme of every advocate for the unfortunate female who had fallen from virtue.

In themselves, they are worthy of due consideration, and on the continent, though not altogether original to its students, they led to new investigations, by applying which all the causes of fallacy might be avoided, while subsidiary proofs were furnished, strengthening the primary and leading one. This however seemed to have but little influence in England. Few men dared, in the infancy of legal medicine, to question the opinions of Dr. Hunter, and though he evidently had paid little attention to the point experimentally, yet his dictum was quoted as the standard of medical science. In process of time, some of the barristers of that day having ascended the bench, and carrying with them the ideas acquired at the bar, have, on many occasions, denounced the hydrostatic test. Baron Garrow some years since, at the Worcester assizes, congratulated a grand jury, that that *scientific humbug* (as he styled it) was abandoned. Nothing, he added, could be more fallacious. Justice Littledale, in a late trial, told the medical witness, "You do not appear old enough to have seen the late Dr. Hunter; but you must know that he was one of the most celebrated surgeons of this country, and that he asserted that no dependence was to be placed on the test you rely on." It was answered, "I am aware that was his opinion, but I entertain a different one, and I believe mine is now the received theory among medical men." "Then it must be (said Justice Littledale) within the last year or two, if it is, for I have heard some of the most eminent of them deny it." And so is the fact. Physicians are not sufficiently firm in expressing their sentiments. They are too apt to yield to the decisive tone that is adopted and permit doubts to escape them, when those doubts should apply only to the proper performance of the test, or to adventitious circumstances impairing its certainty.*

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* In a case tried at the Essex assizes in March, 1820, where the circumstances were evidently extremely suspicious, and where the lungs were found to float, the counsel for the prosecution, the surgeon who examined them, and the Judge on the bench, all agreed that it was a fallacious test. The Judge (the Chief Baron) said there was no proof that the child was

All this however cannot shake the validity of the test. It is founded on physiological principles, deduced from the broad and wide distinctions that exist between fœtal and independent life. Its prominent proof is strengthened by numerous accessary ones, such as the test of Plouquet, the changes in the heart and large blood vessels, and the appearances observed in the various viscera.* The common sense of mankind, we might suppose, would teach all, that these *must* occur from so important a change to the new-born infant,

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born alive. Again, in a case tried in Scotland, three medical witnesses *who had not seen the body*, were examined for the prisoner, and all of these gentlemen agreed, that if the child had been dead for the period of eleven days, it was impossible for any medical man to come to a conclusion as to whether the child had been alive at the time of birth. Edinburgh M. & S. J. 21, 231. The remarks of the journalist on this testimony are so pertinent, that I cannot forbear quoting them. "The more we turn our attention to the subject, the firmer is our conviction—and in this conviction we are borne out by every one of the few persons in this country entitled to the name of medical jurists—that to procure a satisfactory and irrefragable opinion in cases of infanticide and in all other difficult medico-legal questions, it is only requisite to submit the matter to a dispassionate and skilful investigation. Those little acquainted with medical jurisprudence, whether professional or unprofessional, universally confound together *doubt and difficulty*. The question involved in the trial, must be allowed to be almost always difficult, but we are certain, that when properly examined, scarcely one instance in a hundred will prove doubtful."

I add the following extraordinary case, to show how far judicial interference has been carried. The infant was found dead in a box, with several wounds on its neck and breast, and marks of injury to the skull. The lungs were distended with air, and they, with the heart attached, floated in water. The mother had been delivered alone a few hours previous, but denied it. On the trial, the medical witness, Dr. Robinson of Bridport, was not allowed to state his experiments on the lungs, and the Judge (Baron Garrow) interrupted the counsel for the prosecution to state to him that the test was a vulgar error. *London Med. Rep.* 22, 347.

* "The pulmonary test (says Ristelheuber) is no longer a simple trial, whether the lungs are buoyant or not, though this phenomenon is of high importance and great value in the estimate, but it consists moreover in examining the thorax, the lungs, and indeed every part that undergoes a change in consequence of respiration." *Rapports et Consultations de Medecine Legale, par J. Ristelheuber*, p. 140.

and all anatomical knowledge is a mockery, if they be not founded in truth. Even allowing full weight to the scientific objections that have been made, they only prove that there may be cases, where the test is not applicable. They cannot affect its general application.

The result however in England, of the fluctuations of opinion that I have noticed, is not surprising. It has become proverbial there, to say, that no female can be convicted of infanticide. This is also probably to be somewhat ascribed to the severity of the laws, which makes it a capital crime, and prescribes imprisonment for the concealment of the death of the offspring. Sir Walter Scott's "Heart of Mid-Lothian" gives an instructive picture of the barbarity that once disfigured the Scottish law. Such however is not the mode to repress crime. The certainty of detection probably does more to restrain the hand of the murderer than any other cause, and this can alone be attained by the application of the pulmonary test.

The subject of insanity deserves a brief notice, from the discrepancy that practically occurs between civil and criminal cases, and which often results from the employment of terms in legal works, that are either abandoned in medicine, or used in a different sense. One of these is the phrase—*a lucid interval*. Medical men have nearly abandoned it, since they know of no such state as was formerly intended to be expressed by it. The disease present in the insane, is to be taken as a whole. They are either labouring under it, or they are free from it. Quietness, orderly conduct, or even rational conversation, is not proof that they are rational; and this is the nature of the malady. When the raving paroxysm is over (and many have but few and short attacks of it) they will appear to the uninstructed observer, as of sound mind. They converse on all subjects, but one, with perfect propriety. Strike that key note, and all is disorder and confusion.*

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* I delight to refer to the authority of that great luminary of French Jurisprudence, D'Aguesseau. His remarks are an admirable commentary

Now this would be of comparatively little importance in a public point of view, were not the legal interpretation of the term applied in criminal cases. It is not, I believe, recognised in civil ones. There, there must be a perfect recovery, before property is restored.* But an action which when committed by a sane person, would be criminal, is deemed the same when perpetrated during the supposed lucid interval—or, in other words, the individual is held answerable for his acts, if he possess a mind capable of distinguishing between right and wrong. This was the language of Sir Vicary Gibbs, the Attorney General of England, and of

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on the medical experience of those excellent and gifted men, who of late years have superintended lunatic establishments in Europe and this country with so much success. "It is easy (he says) to remove the ambiguity which they have endeavoured to introduce, by confounding a *sensible action* with a *lucid interval.* An action may be sensible in appearance, without the author of it being sensible in fact, but an interval cannot be perfect, unless you can conclude from it, that the person in whom it appears is in a state of sanity; the action is only a rapid and momentary effect, the interval continues and supports itself; the action only marks a single fact; the interval is a state composed of a succession of actions."

And again. "If it was true that a proof of some sensible action was sufficient to induce a presumption of lucid intervals, it must be concluded, that those who allege insanity could never gain their cause, and that those who maintain the contrary could never lose it. For a cause must be very badly off, in which they could not get some witnesses to speak of sensible actions. A reasonable action is an act—an interval is a state. The act of reason may subsist with the habit of madness, and if it were not so, a state of folly could never be proved."—*Pothier's Treatise on the Law of Obligations, London,* 1806, Vol. II. Appendix 19, p. 670, 671.

* Lord Eldon, in a case that came before him on an application to supersede a commission of lunacy, said—"Unless the physician who swears that he has frequently seen the prisoner, and thinks him of sound mind, *can go further*, and says that he has examined the grounds of the opinions of those medical gentlemen who thought otherwise, and the result is, *that just and accurate as those conclusions were, or inaccurate upon his own conclusion satisfactorily formed, the present state of the party is as he represents it*—unless the affidavit comes with some such exposition, I cannot try the truth of the reference. *Ex parte Holyland.*"—11 *Vesey, jun. Reports,* p. 10.

Sir James Mansfield, the Chief Justice, on the trial of Bellingham, the murderer of Mr. Percival.* How is this to be ascertained? "If it should be presumed (says Dr. Haslam) that any medical practitioner is able to penetrate into the recesses of a lunatic's mind, at the moment he committed an outrage; to view the internal play of obtruding thoughts and contending motives—and to depose that he knew the *good* and *evil*, *right* and *wrong*, he was about to commit, it must be confessed that such knowledge is beyond the limits of our attainment." "A person in his senses may entertain and believe a number of unfounded and erroneous opinions, but on the exposure of their falsity, he is capable of being convinced; but the madman never is, and this forms the great distinction between them. This incapability of being convinced of the *good and evil*, *right and wrong*, *truth and falsehood* of his belief, is that which, as an intellectual being, renders him different from other men, and constitutes his distemper."† The delusion also under which many labour, and which impels them to suicide or murder, shows little of the required knowledge. Lord Erskine undoubtedly approached nearest to the solution of this difficult subject. "In cases of atrocity (he observes) the relation between the disease and the act should be apparent. As a doctrine of law, I think the delusion and the act should be connected."‡

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* Collinson on Lunacy, Vol. I. 657, 672. See also Starkie on Evidence, Vol. III, 1704.

† Medical Jurisprudence of Insanity, by John Haslam, M.D. in Cooper's Tracts, p. 294, 302.

‡ Ibid. p. 318. In France, the subject of homicide committed by supposed maniacs, has excited much discussion within a year or two. Georget has written on it, and a work by Hoffbauer, a German lawyer, is also highly spoken of. I will add in this place, that Lord Eldon's introduction of the term *unsound mind*, as indicative of a state different from *lunacy* and *idiocy*, can only add to the number of synonymous terms, without producing any useful distinctions. His dictum as Lord Chancellor might give it currency, but it is not authorised even by the writings of English lawyers, and much less by medical experience. I speak now of it, as

Leaving the consideration of these points, and which I fear has proved tedious, I proceed to mention that the medical witness is often placed in a delicate situation from the circumstances under which he is summoned. He is a witness for one or other party—for the prosecution or for the prisoner; and he is so summoned, in the belief that his evidence will favour the side by which he is produced.* It would be desirable, that at least the person who has made the previous examination before the coroner's jury, should be divested of this, so far as to enable him to give a full and fair statement of all the circumstances that make for either side. I am aware that he can now do so, and indeed his oath obliges him to it. He ought to put the judge and jury in possession of the "*whole truth*," even if he be not questioned to that extent.† But often the technicalities of an examination, and particularly by an adverse counsel, overcome that self-possession which is so essential. Pressed by perplexing questions, and probably irritated in his feelings, he is apt to make declarations more strongly corroborative of opinions that he has formerly advanced, and as his examination advances, he may incur the charge of being *biassed*, more than facts will warrant.

Would not this difficulty be avoided by having the written report to which I have referred, presented to the court, as the *medical facts in the case?* The examiner before the coroner's jury will always have time to prepare this deliberately and cautiously—he can state in it his doubts, and mention the circumstances which are favourable or unfavourable to the accused person. *He can avoid all imputations of being a partisan*, and having once signed it as his deliberate opinion, he ought of course not to be allowed to alter or amend without showing the most satisfactory reasons.

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expressing a *particular* state of mental alienation. Some valuble comments on it will be found in the Edinburgh Med. and Surg. Journal, Vol. XIX. p. 613.

* Dr. Smith on Medical Evidence, p. 66.

† Smith's Forensic Medicine, 1st edit. p. 8.

We have now supposed the facts to be settled. The next difficulty that may occur is the difference of *opinion* that unfortunately too often arises in courts of justice between members of our profession. They disagree on the bearing and weight of certain facts and on the deduction to be drawn from them. The most common cause of this, in my judgment, is the delivery of testimony, *vive voce*. That class of witnesses who are called upon to give opinions on a certain statement of facts, have generally been unable to examine it before the trial. They often hear it imperfectly, sometimes confusedly, and at all events, even if detailed in a succinct and clear manner, they have but a few moments to reflect on its various import, before they are called to decide upon its relevancy. Another circumstance must not be forgotten, and that is, the want of knowledge in one or the other witness. It is seldom that you can find any two persons who are equally skilled on a subject, and so it is here. *One is ignorant in comparison with the other.*

Both these would certainly be greatly obviated by having the written reports to which I have adverted, as the basis on which they found their opinions. These could be examined with deliberation, and the objections offered would then bear the impress of due reflection.

But allowing that all this could be effected, differences will still exist. How are these to be decided? The rule of law is applicable with proper explanations. "When a witness (says Starkie) testifies to a fact, which is wholly or partially the result of reason upon particular circumstances, it is obvious that the reasons of the witness for drawing that conclusion are of the most essential importance, for the purpose of ascertaining whether the conclusion was a correct one. And these observations apply with peculiar force to all questions of skill and science."*

If we carry out this principle, we shall find that all practitioners are not proper witnesses. In a case where anatomical

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* Starkie on Evidence, I. 460.

knowledge is particularly necessary to elucidate the case, most importance should be attached to the opinion of him who has cultivated that science. When any question relating to the treatment or symptoms of disease is agitated, he should be consulted, whose opportunities are extensive and whose judgment is approved. So, also, with other departments of our science. The regrets of John Hunter are a lesson to all of us. Standing at the height of his profession, and to which he had been elevated by the force of genius alone, eminent as an anatomist and physiologist, he was summoned in 1780, as a witness on the remarkable trial of Captain Donellan, for poisoning his brother-in-law, Sir Thedosius Boughton. Although he evinced great knowledge, yet, says Sir Astley Cooper, "He regretted that he had not made more experiments on the subject of poison, before giving an opinion in a court of justice. He found himself a good deal embarrassed; and he used to express his regret publicly in his lectures, that he had not given more attention to the subject before he ventured to give an opinion in a court of justice."*

I need not enlarge in this place on the propriety of medical witnesses treating each other with respect. Even if opposed in sentiment, they may still express themselves with courtesy, and with a due regard to their respective reputations. If they do not guard these, others will with pleasure aid in the work of depreciation.†

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* Lancet, Vol. III. p. 171.

† I quote two cases, one of which illustrates the *cruelty* which practitioners sometimes exercise towards each other, while the other is worthy of its excellent and kind-hearted narrator.—"A surgeon had reduced a dislocation of a child's elbow, for which the father resisted payment, on the ground that the injury was merely a sprain, and that the charge was excessive. To recover his fee the practitioner brought an action. The ordinary medical attendant of the defendant's family *saw the arm on the following day, accidentally, and in his opinion there was no dislocation.*"

"Sir Wm. Blizard, who had already spoken in favour of the plaintiff's

But *personal experience*, however comprehensive it may be, cannot always be satisfactory, nor indeed sufficient. It has then been a subject of considerable discussion whether *authority*, or, in other words, the observations of others, should be adduced as testimony. There appears to be no settled rule on this subject, although certainly some judges have decided against its introduction. When Dr. Neale, on the trial of Donnal for poisoning, quoted Thenard, whose work on chemistry is as much authority with physicians as Starkie and

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character and professional qualifications, was again examined upon this point, and very properly discountenanced such an inference—stating, that it was *impossible for any one, after twenty-four hours*, to say whether a dislocation had taken place or not, if it had been properly treated."—*London Med. Repository*, 21, 264.

Mr. Abernethy states the following in his lectures. His characteristic manner would seem to be preserved in the report. "A medical man was prosecuted for killing a child by giving it opium, at least that was said. I happened to be in the country at the time, and was strongly solicited by him to attend and give my opinion. I considered that the character of the profession was at stake, and although rather against my inclination, I went. After waiting in a crowded court the greatest part of the day, I was called upon, and placed in the witness box. The lawyers had taken it into their heads that the child had died from maltreatment on the part of the surgeon: the child had been scalded severely, and he had given opium, and they thought they should be able to make the jury think as they did. The first question put to me was, "Mr. Abernethy, will you inform us what is considered the proper treatment for scalds?" This was a question broad enough to be sure; I was puzzled a little how to answer it; I did not know but that they would require a lecture on burns and scalds. I considered a minute, and then said, "That which was adopted in the present case." Oh! that was what they did not expect; it was giving a turn to the case which they did not like. "You have heard the evidence, have you not?" "Yes, but it is contradictory." "But judging from the evidence?" "I have no right to judge; you may judge, if you please, or the jury may judge, but I shall not." "But I ask you, for the information of the jury, your opinion respecting the opium, whether you do not consider it too large a quantity for a child?" "The statements respecting the opium have been contradictory, but admitting that the child had, as was said, eight drops immediately after the accident, and ten drops two hours after, I should say that the child had not taken one drop too much." "But are you aware that the child had no pain?" "Yes, per-

Phillips are with lawyers, Judge Abbot said, "We cannot take the fact from any publication; we cannot take the fact as related by any stranger."* So, also, on the famous trial of Spencer Cowper, when some of the witnesses referred to medical authors on the subject of drowning, it was objected to by the bench. The expostulation of Doctor Crell on this deserves repetition. "My lord (said he) it must be reading, as well as a man's own experience, that will make any one a physician; for without the reading of books in that art, the art itself cannot be attained to. I humbly conceive, that in

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fectly; when the skin, or any other part of the body is severely injured, the nervous system of the part is so affected that the peculiar actions of the nerves on the brain or spinal marrow, by which alone pain can be felt, do not take place. A man may have a serious injury inflicted by a mechanical cause, may have his leg smashed, and nearly torn off in machinery, and yet feel little or no pain; and we are in the habit of giving, in such cases, wine and opium, not to act as a narcotic, but to arouse the energies of the vital powers, and call them again into exercise: the nervous system has sustained a great shock, from which it requires to be roused."—The judge said, "that he understood it; he saw the principles on which the treatment was founded, and had no doubt but it was correct." "But my lord," said the counsel, the child slept to death." "So he may have appeared to sleep, but he would have done so if no opium had been given; it was the torpid state into which the nervous system had fallen which caused that appearance, and from which the child could not be roused." Here the business rested, the treatment was admitted to be correct, and the character of the gentleman exculpated."—*Lancet*, Vol. VI. p. 229.

In some cases, medical witnesses have met with deserved reproof. On the trial of Donnal, Mr. Ticknor, a surgeon, was asked—"Supposing a person to have retchings and purgings for several hours, and that you found these attended with a frequent and fluttering pulse, in that state of the illness, what should you have prescribed? Ans.—I should have prescribed diametrically opposite to the prescription of Dr. Edwards. I should consider that prescribed by Dr. Edwards as adding weight to a porter's back.

Mr. Justice Abbot to the witness. "Don't speak metaphorically: you are speaking just now of a gentleman of experience and respectability. I don't wish you to conceal your opinion, but only to speak it in different language."—*Paris and Fonblanque's Med. Jurisp.* III. Appendix, p. 304.

* Paris and Fonblanque, Vol. III. Appendix, p. 299.

such a difficult case as this, we ought to have a great deference for the reports and opinions of learned men; neither do I see any reason why I should not quote the fathers of my profession in this case, as well as you gentlemen of the long robe quote Coke upon Littleton in others."*

On the other hand, in order to show that the doctrine of exclusion is not fully established, I need only allude to the frequent mention made by judges themselves of the writings of Dr. Wm. Hunter. Surely if these be authority, the works of other eminent men are equally so.

In this country, I believe, the objection has never been made. There is scarcely a case of any note where medical testimony has been required, in which frequent reference has not been had to medical works. They are quoted and commented upon by the bench, the bar, and the professional witnesses.

I must not refrain from mentioning, that the responsibility of the physician is often greatly increased by the mode of the examination. "A dexterous advocate (as has been well remarked) has a great advantage over any witness, however learned or self-possessed. He may be led into a train of admissions, the inferences from which are afterwards to be turned against him."† Many of these undoubtedly originate from inquiries into the import of *individual facts*, instead of the *whole collectively*. The consequences of such attempts may be easily conceived. "In a vast majority of cases, for example, in all cases of insanity, infanticide, and poisoning, the witness may be made to express the very opposite of his real opinion."‡

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* Hargrave's State Trials. "It appears to us that no witness could follow this advice (to shun quoting authorities) without compromising the right and dignity of his profession, as well as the force of his evidence; for it would not be difficult to show that medical evidence altogether is little else than a reference to authority.—*Edinburgh M. & S. Jour.* 19, 480.—See also ibid. p. 610.

† Smith on Medical Evidence, p. 42.

‡ Edin. M. & S. Jour. 19, 611. The difficulties attending this have in-

If the duties on which I have enlarged, are important to the community, in promoting the proper administration of justice, ought not the individuals engaged in them to receive adequate compensation? I advert to this, not only because it is just in principle, but because it would remove all imputations of volunteering in criminal cases. No one can refuse being a witness when legally summoned—every one, I presume, may decline the dissection of a dead body, or the

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duced some to advise, that *no opinion* should be given, and to refuse it when asked. But I cannot see how an answer is to be evaded, except by pleading ignorance. Mr. Abernethy, in the following case, says, he gave no opinion; but I should suppose that no one, after perusing it, could deny that he has given a *most decisive one for the prisoner*.

"The case was that of a *Lascar*, who had been struck with a *marlin-spike*, aboard ship, and he died; and then the question was, whether the blow he had received with the marlin-spike had killed him or not. When I went into court, and after the evidence had been given with relation to the transaction, the lawyer said to the judge, "My lord, Mr. Abernethy is in court, and we will thank you to take his deposition now, as we know his time is valuable; will you have the goodness to take it now?" "Certainly." "Can you, sir, from what you have heard, form an opinion as to whether the blow this Lascar received, was, or was not, the cause of his death?" To which I answered, "My lord, there is no evidence before this court, upon which medical opinion can or ought to be founded." "What, sir, don't you mean to give an opinion at all?" "No." "Why, sir, you were sent for, for the purpose of giving an opinion." I told him I should not do it. Then the party had a counsel, and he got up: "O, Mr. Abernethy," says he, "it might have been the fever, you know, that destroyed this Lascar. You are acquainted with those East India fevers, I believe? "I am not." Then the counsel on the other side set at me, and I just said, "After what I have told his lordship, I should be unwilling to offer one word that could in any degree influence the minds of the jury." Then the judge says, "But, indeed, this is very strange, sir; we are to look to you for an opinion." "My lord, said I, I am ready to tell you, if you please, the grounds for what I have said to your lordship." "I should be very happy to hear them, sir." So he dipped his pen in the ink, and I spoke deliberately that he might take it down. "In case of death succeeding to injury, the medical evidence goes to prove, that the subsequent death was, or was not, the effect of the preceding injury, by showing that that injury had materially affected parts essential to life. My lord, there's no evidence of this kind before the court." "Certainly not," he

chemical examination of a suspected fluid; and yet there is not, I believe, an individual attending on any of our courts, who is not paid for his time and services, with the exception of such as are engaged in these investigations.*

With this, I conclude what I have to offer on the subject of MEDICAL EVIDENCE. Some of my suggestions may appear rash and speculative—others may be condemned as the result of ignorance. But if they elicit discussion and lead to improvement, I shall not have addressed you in vain.

Before taking leave of you, a brief notice of our medical annals during the last and present year, may not be improper.

I have the pleasure to state, that in compliance with the request of the society, made at its last meeting, the regents of the university have conferred the honorary degree of doctor of medicine on the gentlemen then nominated by us. This act deserves and doubtless receives your cordial thanks. You will also recollect that a delegate was appointed to attend a proposed medical convention at Northampton. I regret that

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said, and I was dismissed. Now I did not tell them that there was no evidence before the court on which the jury could found an opinion, but that was the construction they put on it; and they said, "Why, if Mr. Abernethy cannot form an opinion, we cannot;" and as justice always leans to the side of mercy, the accused individual was discharged. But it is a very awful situation in which you are placed; and if you were to say, a blow from a marlin-spike would not kill a Lascar, you would say a very outrageous thing. Many of those Lascars have been killed with a box of the fist, which a boxer here would laugh at. They are what they call a *nash* sort of people, very susceptible of injury; and if you were to say the blow had killed him, the other man's life would be in jeopardy, though perhaps he had done nothing but what he was perfectly justifiable in doing. Then, I say, I would not give an opinion in a court of justice; but if a juryman asks you a question, you must answer; you should try, of course it belongs to you to try, not to let his mind be too much prejudiced by the evidence in relation to the fatal point."

* Smith on Medical Evidence, p. 29. By a late decision in England (Severn v. Olive) the expenses of experiments to elucidate or determine points in disputes cannot be allowed in costs. This (says Dr. Paris) may be a check to prevent intelligent practitioners from attending.

illness in his family prevented his attendance. Lastly, among the transactions of our last session, was a petition to the legislature, requesting that body to decide on the validity of diplomas, granted by other states to individuals pursuing their medical studies in schools within this state, not authorised by its laws. The regents, to whom the subject was presented, accorded in the necessity of an enactment, and the legislature, by large majorities, passed a law declaring them invalid.

When the passions and feelings of the present day shall have subsided, the justice of this law will be acknowledged by all. It will be even a matter of surprise that the right of a state to say who shall practise within its borders, should ever have been invaded, and particularly by the incorporations of a commonwealth, which most effectually prevents all similar encroachments.

During the adjourned session of the legislature held last autumn, the laws relative to the medical profession came before them in a revised form. With the details of those that were enacted, you are of course acquainted. As an individual, and I of course speak thus in all I may say, I beg to congratulate you on their adoption. They are calculated to elevate the character of the profession, and if mildly but efficiently administered, must conduce to the public good.* I forbear saying more on them, as the subject is still before you in a deliberate form. I cannot however do wrong in adding, that most of the provisions have from time to time been suggested by our society, and it would certainly seem proper that they be submitted to the test of experiment, before they be again changed.

It will afford you pleasure to be informed that our state medical institutions have each increased in the number of

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* The Medical Profession in this state is under a deep debt of gratitude to Dr. Elial T. Foote, a member of the legislature of 1827, for his unwearied exertions in procuring the passage of the above law. I bear this testimony with the more pleasure, as, in common with many others, his character and conduct have been made the subject of foul-mouthed slander.

their students since the winter of 1826-7, and that their prospects are flattering, provided they be not denied the countenance of the state. Forming part of the great system of education, which, in regular gradation, ascends from common schools to the highest literary and scientific instruction, they are with great propriety subjected to boards of control and trusts, and regulated by the ordinances of those boards and the public laws. In return, the state has directed that attendance on the lectures delivered in these institutions shall form one of the requisites for obtaining a licence, and also that the regents of the university may confer the degree of doctor of medicine on such as comply with additional and more onerous requisitions. Thus you observe that the state has granted privileges to these institutions, founded by itself, but has guarded against their abuse, by organizing various bodies to supervise them. The legislature, emanating from the people, elect the regents of the university—the regents appoint the trustees and professors of the respective colleges. The students attending these colleges cannot obtain a licence without returning to the great body of the profession, represented by the county medical societies, or the medical society of the state—nor can they procure a doctorate, without appearing before the regents of the university, and proving their compliance with the laws of the state and the ordinances of that board.

Certainly this system is properly guarded, and most undoubtedly it does not infringe on private rights. All and every one, both in and out of the profession, who feels himself qualified to engage in lecturing on the various branches of medical science, may freely undertake it—"There is none to molest him, or make him afraid." But as yet the state has not broken in upon its system of medical education. It has not yet granted state privileges to institutions not directly amenable to the various supervisory boards, emanating from its authority. If such should be the case hereafter, we may safely predict, that although the state colleges will be the first victims, the success of the others will be but ephemeral. Causes on which I need not enlarge may for a few years buoy up the institutions that are independent of those re-

straints, which for twenty years have been deemed wise and salutary, but they must fall. They will fall from internal dissention. They will fall, because the public will learn that unlicensed freedom ends in licentiousness.

In giving these views, I hope I have addressed you with the respect that is due to my situation and to yourselves. I have not introduced attacks on private character, or on public bodies. I would not impugn the motives of any, who might differ with me, merely because they so differed—nor would I be so illiberal as from this place to insult individuals who are of course precluded from reply or vindication. I do not mean to be misapprehended or misunderstood, nor do I wish to say any thing which it may be necessary on some future occasion to explain.

There is but one point, on which I may be misjudged, and for which I must beg your indulgence. It may be asserted that I am too interested to be a competent judge. Be it so. It is but natural that those who have most at stake should be the earliest alarmed. Individuals however are mortal—they pass away and others fill their places. Institutions should be permanent. In a state which like New-York has earned and wears a proud wreath of civic glory, all must breathe the aspiration, THAT HER PROGRESS IN SCIENCE AND LITERATURE MAY BE COMMENSURATE WITH HER EXERTIONS, AND LASTING AS HER UNRIVALLED REPUTATION.

ART. II. *Observations on Apoplexy and Hydrocephalus.* By JOHN R. RHINELANDER, M. D Demonstrator of Anatomy in the College of Physicians and Surgeons, New-York.

IN several subjects which have been brought into the Dissecting Room this winter, I have observed, especially in those who have died of phthisis and disease of the intestines, great turgescence of the vessels of the brain, and also much water in the ventricles. In the last annual report of the city inspector, two hundred and thirty-two are stated to have died of

hydrocephalus, an estimate far too great for the number of deaths, which were in all five thousand one hundred and eighty. When we consider the various diseases which simulate affections of the head, it cannot be a matter of surprise, that the brain, which participates so largely in the morbid action of every part of the system, should be considered the seat of the malady. The public journals of this country and Europe teem with cures of this affection, although the declaration of Dr. Baillie, of London, should at least have taught these aspirants for fame some caution how they committed their reputation in opposition to the most experienced, that there is not "a diagnostic of the disease." In investigating the pathology of hydrocephalus and apoplexy, it will be made to appear, that there is great probability for the belief that pressure arising from accumulated fluid or extravasated blood, does not occasion death so often as is generally supposed——that they may exist without impairing the function of the brain; and lastly, that water in the brain, usually denominated hydrocephalus, is in most instances a healthy action set up by nature, to restore the powers of this viscus, and to prevent the rupture of its blood vessels.

The circulation in the head, for the prevention of rupture of its blood vessels, is better guarded than in any other part of the system. It is provided with an osseous crust, which almost entirely protects it from atmospheric pressure; the vessels themselves have tortuous courses, so that its force may be retarded; the veins open into the sinuses in a retrograde manner, and they have grooves in the bones for their better security; the sinuses are triangular, and are always on the stretch, so that they may resist completely any force applied to them. The ventricles, for an explanation of the use of which, we are indebted to Doctor Carson, perform a most important office in this arrangement. The contents of the cranium must at all times be the same. If one of its portions, blood vessels, water in the ventricles, or substance of the brain, is diminished, one or both of the others must be increased to prevent a vacuum. But it is said the brain is incompressible; also the water in its ventricles: the blood, therefore, must be

maintained in equilibrio, and derives great strength and security in its passage through every part of this organ. If then both the brain and water in its ventricles be incompressible, can the blood be abstracted in any way? Dr. Pring bled animals to death, and always found the vessels turgid: hence it follows, the quantity of blood must always be the same, although there may be more blood in one part than in the other from some exciting cause. This proposition has an important bearing upon practice, and will be hereafter applied.

Dr. Munro contended that the brain was incompressible—that is, the ultimate particles which compose the brain would, under any pressure, occupy the same space. He deduces this opinion from the fact, when there is much fluid in the ventricles, an absorption of the brain takes place.

To this it is replied: if this were entirely true, atmospheric pressure would have no influence upon the circulation, to the fallacy of which our own feelings testify. We know if the pressure of the atmosphere is great, the bulk of the brain must be decreased, for we are more excited, which must be by a greater quantity of blood, which is consequently the stimulus. The mean of these opinions is probably correct.—The brain must possess some elasticity for the better government and control of the circulation, and as far as our sensations will give us evidence, it is somewhat affected in its bulk by the pressure of the atmosphere, but in a very slight degree. Yet it must be nearly incompressible, as the means of protecting us from those changes which must occur in either affections of mind or body. Whether it has the power of renovation, or is governed by the same laws which extend to other parts of the body in its diminution or increase, is as yet unknown.

But it is ascertained that the brain has diminished, either from absorption or compressibility. The arteries must expand to fill up a vacuum which must be induced, or some process must be instituted in other parts of it, to supply the deficiency. The ventricles appear to perform this office. If there had been no ventricle, the blood vessels would have been entirely unable to bear the pressure upon them by loss

of substance of the brain. We often find ten ounces of fluid in the ventricles—sometimes thirty ounces; if the blood vessels, in addition to what they contained, had received so much, their coats must have given way, or had they sufficient expansibility to contain it, there would have been an incapacity to perform their functions. "Hence, says Carson, we readily perceive the important use of the ventricles. By becoming the receptacles of a mild fluid, they, in certain circumstances, prevent the blood vessels being over distended. By their greater or less expansion, they become the grand regulators of the circulation in the head. Water in the ventricles in such circumstances, instead of being considered a disease, is in reality the great remedy provided by nature for the preservation of life, in situations in which it could not otherwise exist. It is the defence set up by nature for the protection of the breaches or weak points which may exist in this part of her works." This view will lead us to consider what pressure the brain can sustain without producing those symptoms usually supposed to arise from it. Experiments on living animals and post mortem inspections will constitute the basis of inquiry.

* M. Serres selected an old dog for his experiment, as apoplexy occurs in the decline of life. He trepanned the middle part of the cranium over the superior longitudinal sinus, and introduced a very fine bistoury so as to perforate the sinus, and stopped the external opening to confine the effused blood to the interior. The dog was then let loose: he ran about the room trying to make his escape. Three hours afterwards he appeared so little altered, that it was doubted if an effusion had taken place. On opening the cranium, a very large clot of blood was found in the great inter-lobular scissure, and another, somewhat less, upon the left hemisphere. These experiments were repeated upon young dogs, rabbits, and birds, with the same result.

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* Cook on Palsy, p. 256.

He tried the effects of forcing blood into the ventricles. He cut down into the ventricles. The animal for about a minute was affected with vertigo, but through the day and night there was no somnolency. On examination, one ounce and a half of effused blood was found in the ventricles, and the great interlobular scissure was filled with blood.

He next perforated the substance of the brain, and brought away two drachms of substance, but no somnolency or difficult respiration ensued. A clot of blood of the size of a nut was found in the lobe.

He concludes, from these experiments, "that effusions of blood do not produce apoplexy, whether lodged between the cranium and dura mater, or between the membranes and the brain; whether they occupy the great interlobular scissure, and thus lie upon the corpus callosum; whether cavities made in the fore, the hind, or middle part of the hemispheres, or quite through them both; or finally, whether piercing through the corpus callosum we penetrate into the ventricles of the brain and fill these cavities."

M. Portal performed experiments somewhat similar with a different result; and Sir Astley Cooper trepanned a dog, and detached the dura mater in a circle from the inner table of the skull, to the extent of half an inch. He then pressed on the dura mater so as to depress it about one-fourth of an inch, and the dog exhibited no signs of uneasiness. He then pressed half an inch, and the animal exhibited great signs of uneasiness; and, as he increased the pressure, laborious breathing came on. This experiment is evidently defective, as well as M. Portal's. Would the same results ensue had the pressure been lateral? Recent inquiry is against this conclusion.

Besides, the pressure from above and below was altogether indirect, for he does not prove that force applied to the cerebrum was the cause of the difficulty, any more than that it extended to the medulla oblongata, which, in all probability, it did. We know that lateral pressure has no effect; but the least action against the upper part of the spinal cord is very injurious, if not instantaneously fatal. Had this pressure been made upon a part of the brain, where it could not in any

way have reached the corpora olivaria, our conclusion would have been widely different. The experiment is at least incomplete.

The experiments of Le Gallois and Fleurens strengthen M. Serres, and entirely disprove the opinions of Portal and Cooper. Le Gallois says, "If we open the head of a young rabbit, and cut away by slices the whole of the brain and cerebellum, the animal will continue to respire ; but if we comprehend in the section, the organ of the eighth pair of nerves, respiration suddenly ceases." From this it is evident that no pressure upon the brain proper and the cerebellum can be the means of suspending life, but that the spinal cord must be affected either by direct or indirect pressure, before symptoms of stertorous breathing ensue. But physiology has further instructed us that the life of the trunk does not derive its principle from the brain, but the spinal marrow, though the brain and spinal marrow are both necessary to its continuance. If the spinal marrow sustains any severe injury, the circulation instantly ceases. It then follows that the brain does not maintain that important influence it is supposed to exert, and consequently it cannot be the means of destroying life so suddenly as we are led to believe. Is it not extraordinary that we can cut and slice it, and no sensation is conveyed, yet if a small effusion of blood ensues in its substance or on its surface, we should have all the fatal terminations of apoplexy ? Analogy is certainly against the conclusion, and we think dissection will still further disprove it.

But in these experiments of Cooper and Portal, it required the brain to be depressed nearly to half an inch before the animal exhibited the effects of it. Now to make this pressure, what is the force required—equivalent to what weight ? This is not stated ; it certainly must have been many ounces, if not pounds, to displace this organ half an inch. But we often find an extravasation of less than half an ounce said to be instantly fatal. There is no rule as to quantity: very often a small hæmorrhage is found after death, seated in a part of the brain where no pressure could have been injurious.

We now pass to the dissections. The imperfect manner in which dissections are performed, should make us receive with great caution all post mortem examinations, except from the hands of the most experienced. A perfect knowledge of healthy structure is absolutely necessary to understand morbid appearances. Wenzel was so satisfied of this, that whenever he examined the brain of an epileptic person, he always provided himself with a brain that had not been subject to the disease.

The time of dissection is all important, as the following statement by Dr. Davy will prove :

" Immediately after death, before the body has lost its heat and flexibility, the heart and arteries, as well as veins, are full of blood, which is fluid as in life, and every part may be considered nearly the same as it was before the fatal event took place."

" If several hours be allowed to elapse before the examination of the body is made—for instance, from twelve to sixteen hours, new appearances will present themselves. Little blood will be found in the great arteries ; coagulated blood, or polypi, will be found in the auricles of the heart. The viscera will be found more or less turgid with blood, especially the lungs and the lower part of the viscera ; the peritoneal covering of the gall bladder, and the adjacent parts of the liver and intestines, will have assumed a dark greenish hue."

If more time elapses, the serous and mucous membranes in general, will appear red and inflamed, especially in those parts most exposed to the action of the heart and arteries. The serous effusions into the *cerebral* or pectoral cavities will be more or less tinged with blood. There is an " appearance of inflammation, in consequence of the exudation of bloody serum." These false appearances are so exactly like the true, that in many instances, he doubts if the most experienced anatomist would be able to distinguish between them. " I have made trial with medical friends, by asking their opinion of parts that had been closed by immersion in

blood, and without the least hesitation, they have pronounced them strongly inflamed."

Brichteau observes—" Sometimes the most intense inflammations do not leave after death any trace of their existence."

M. Serres examined one hundred cases of apoplexy; twenty-one were simple and seventy-nine were complicated. In sixteen of the first description there was serous effusion in the ventricles and circumvolutions of the brain. In one there was a sero-sanguineous effusion, in the left ventricle; in two there was a similar effusion between the tunica arachnoidea and pia mater upon the two hemispheres, and in the other two no effusion could be found. In all these cases the brain was sound, but the *meninges* were impaired. Whenever the substance of the brain was disordered, there was always paralysis.

Dr. Baillie examined one case where there was no extravasation, but merely a turgescence of the vessels.

The morbid appearances observed in the brain in apoplexy are blood, pus, serum, hydatids, tumours, organic lesions, polypous concretions, ossifications, and exostoses.

We shall now inquire to what extent pressure may exist, without impairing the functions of the brain when it arises from some of the above causes. The following case shows that an organic disease of the head may be manifested during life only by functional disorder of the stomach.* Delpech, Gaugiran, and Naudin were present when the body was opened. Four or five fungous vegetations were seen to spring from the upper part of the dura mater, and opposite to them were seen corresponding fossæ or depressions in the parietal bones. On the anterior superior part of both hemispheres, there was a morbid adhesion of the dura mater and arachnoid. From six to seven ounces of serum were found in the left lateral ventricle, and between four or five ounces in the right. The sinuses and vessels of the brain were gorged, as if injected with blood. This patient had never complained of

* Journal General de Medecine.

his head until the day he died. The pain then was excruciating, but he exhibited no symptoms of apoplexy, and was treated for dyspepsia.

Dr. Cooke relates the case of a gentleman who fell off his horse and struck his forehead, and was taken up insensible; he recovered, and afterwards died of inflammation of the brain. A large coagulum of blood was found upon the anterior lobes.

In the Med. and Chir. Review for January 1827, a case is related of a man, who was received into the hospital for a fracture, from which he recovered. On the eve of his departure he suddenly expired. His dissection showed evidence of chronic inflammation of the arachnoid. The pia mater was infiltrated with serous effusion, and more than four ounces of water were found in the ventricles. No symptoms during life indicated the existence or progress of such a disorganization.

M. Serres states that serous, sero-sanguineous and bloody effusions have been found, without any symptoms of apoplexy preceding death. The disease has been cured, although the effusion has remained after death.

It is well known that in hydrocephalus, the bones of the head begin to separate before the disease is discovered. The pressure requisite to separate the bones must be very great, and yet the brain does not feel its effect.

I examined the brain of a child, at the request of Dr. Jos. M. Smith, who died of well-marked hydrocephalic symptoms. The ventricles contained from six to eight ounces of serum tinged with blood. The mind had exhibited no signs that effusion had taken place. On the contrary, the intellect was sharpened, and the memory especially very strong. There was no coma or stertorous breathing.

In the London Medical Repository for April 1825, there is the following extraordinary case of depression and effusion. The boy was nine years old. He was wounded in the head by a small poker, about half an inch in diameter; it remained upright until it was withdrawn. He exhibited no severe symptoms, and continued to improve for six days after the injury. There was a slight paralysis; but the day he died "he

was running about the ward, and rejoiced that his leg was quite recovered."

Dissection discovered a perforation situated about half an inch above the squamous portion of the temporal bone, in the left parietal bone, and about a quarter of an inch from the coronal suture. The opening on the outer surface was completely circular; but upon sawing through, and removing the skull-cap, the inner table of the skull was found driven in, in three or four separate portions, and pressing upon the brain. There was also a considerable deposit of coagulated blood on the dura mater, for several inches round the opening through which the instrument had passed. Perpendicularly slicing the brain, exposed the passage of the weapon through the substance of it even into the thalamus.

Cases might be multiplied, but the inference is just, that extravasated blood, depression of bone, or water in the brain, are not the immediate causes of sudden death, or that they do not even produce coma, stertorous breathing, or loss of the intellect. If effusion was the exciting cause of disease, its presence would always maintain it; but it is well known that apoplexy has taken place, the patient has recovered, and afterwards died of some other disease, the effusion still remaining. The following dissection of Mr. Saunders, who had suffered repeated attacks, is in point: upon examination, several streaks of coagulated blood were found in the pons varolii, and in the cerebellum, the colour of which was so different from recent extravasation, as clearly indicated that they had been long effused. Dr. Abercrombie observes, that coma and other symptoms in hydrocephalus, are not to be considered as the direct effect of effusion, but of that morbid condition of the brain of which the effusion is the consequence; and Dr. Condet says, "cases with all the symptoms of hydrocephalus, are met with which are fatal, and in which no effusion is found." It appears then very improbable, that a cause can produce opposite effects; for coma has supervened with or without the presence of water. Whenever there is water in the ventricles, if it exerted this power, the pressure

in the fourth ventricle would affect the upper part of the spinal chord, and difficult respiration would take place.

From these cases, it would appear that extravasated blood in most instances, is not sufficient to arrest life in the sudden manner generally supposed, and that water in the brain cannot be considered the proximate cause of disease when all the train of symptoms which it is said to produce, can occur without its presence. There must be some other cause acting upon the coverings and substance of the brain itself.

In one hundred cases of apoplexy, which M. Serres examined, the meninges or the substance of the brain were affected. The quantity of effusion depends upon the nature of the inflammation. If it be chronic, it will be great; if very acute, there will be none at all. But the disease may occur from aneurism of some of its vessels, producing great extravasation, and death instantly ensue. This may be from the stimulus of distention being suddenly removed, occasioning collapse. We observe the same in removing water from the brain by puncture, or on discharging too much in spina bifida; in the sudden evacuation of dropsy of the abdomen. I do not say that extravasation never destroys quickly by pressure; but from the fact, that large quantities of blood have been discovered upon the brain without disturbance of its function, it must be a more rare event than symptoms would lead us to suppose.

As far as we are able to judge, there is a specific irritation of the brain, which manifests itself during the periodical revolutions to which the body is subject. M. Portal mentions the case of a woman, who constantly experienced convulsions just before the accession of the catamenia. That disease was more liable to return at stated periods than others, was so apparent, that the ancients believed the celestial bodies had great influence.

It is very evident, that epileptic attacks occur without any previous warning, assuming the very worst form of apoplexy.

Dr. Cheyne says, "from the 12th of May to the 19th of August, I was called to nine cases of apoplexy, and the summer was the most sultry I ever knew; and as far as I know, the

only quality of the season upon which this disease depends, is extreme heat." Great cold, as well as excessive heat, is considered an exciting cause of the disease. In the first, the expansion of the fluids is supposed to produce it; and in the second, the retreat of the circulation to the internal parts of the body. But it has been shown, that the brain is incompressible, and that it admits of no more blood at one time than the other, and therefore it could be effected by neither.

If this view of the pathology of the brain be correct, the practice to be deduced from it is, 1st, the use of moderate bleeding; 2d, counter-irritants; and 3d, active purgatives.

Dr. Cheyne says, "two pounds of blood ought to be removed as soon as possible after the attack, and if the first bleeding has not been of service, and the disease is unequivocally established, the chief question to be decided, is the additional quantity of blood to be drawn. It ought to be known, that from six to eight pounds of blood have been taken from a person by no means robust, before the disease which ended favourably, began to yield." If the repetition of bleeding as advised here, be practised, the system becomes so prostrated, that should the patient be so fortunate as to escape, some other disease will be induced. If we bleed until some impression be made upon the disease as it is called, we shall in all probability seat it more firmly. The experiments of Dr. Pring, as before stated, prove it to be impossible to diminish the quantity of blood in the head. If the system loses such a vast quantity of stimulus, debility principally falls upon the venous circulation, and the pressure is actually kept up by it. But this excessive blood-letting is productive of another injurious tendency. Complete syncope is often induced and the bleeding is continued, mistaking the effect for the cause: re-action from exhaustion. As soon as the patient recovers a little, this re-action shows itself in accumulated blood about the right auricle and ventricle, which cannot evacuate themselves; the blood cannot be transmitted through the lungs, on account of impeded respiration; the jugular veins become turgid and the face is livid; the carotids throb, and there is beating in the head. Bleeding is again urged, and the case terminates fatally, and dissection

shows the distended state of the vessels, which causes the attendant to regret, that depletion had not been carried to the extent demanded by the urgency of the case. Dr. Seed bled animals to death, and found in almost all instances, effusions of serum, and even blood in the brain. This, no doubt, is the reason we see so many histories of apoplexy. If examination shows serum or extravasated blood after death, it is always imputed to disease, and not to the lancet.

It appears proper that bleeding should be carried to an extent sufficient to take off the distention of the vessels, and restore the circulation to its equilibrium. Dr. Fothergill says, bleeding in apoplexies is one of those operations, which, on several accounts, requires the most dispassionate consideration. In no disease is the judgment of the prescriber of more consequence to the patient." If apoplexy be a simple distention of the vessels, or if it be a congestion in one part of the brain, the evacuation of blood should not be large. It is so difficult to determine between re-action from exhaustion, and irritation of the brain, that the utmost circumspection is necessary. It is safer to rely upon active counter-irritants upon the bowels and skin.

It seems to result from the preceding investigation, that the brain is incompressible or nearly so; in consequence of which, the blood in that organ cannot be sensibly diminished--that effusions of blood, serum, and water, do take place without impairing the functions of the mind—that no pressure upon the cerebrum or cerebellum produces any sensible impression —that it is the indirect pressure upon the spinal chord that gives rise to difficult respiration—and lastly, in a practical point of view, these deductions will lead us to avoid those excessive bleedings, which are the cause of confounding apoplexy with re-action from exhaustion, which these large evacuations bring on; and in the treatment of hydrocephalus, as there is no symptom which can positively inform us when effusion has taken place, our endeavours shouldbe unremitted in the continuance of means, even when the case is apparently hopeless. They will also cause us to be on our guard against those transmitted irritations, which are so frequent, so decep-

tive, and so embarrassing, and give close circumspection to diseases of the bowels in children, as the brain is almost always the first to be affected sympathetically, producing irritation, and at last disease of that organ.

ART. III. *On the Nature of the Compounds, usually denominated Chlorides of Soda, Lime, &c. With Remarks on their Uses as Disinfecting Agents.* By LEWIS C. BECK, M. D. Professor of Chemistry in the Vermont Academy of Medicine.

THE chief design of the following communication is to inquire into the nature of those compounds which have been called, as I conceive improperly, *Chlorides, or Chlorurets of Soda, Lime, &c.* As tributary to this object, I shall also notice the manner in which these compounds are obtained, and their mode of operation as disinfecting agents.

PREPARATION.—There is nothing peculiar in the preparation of the compounds under consideration. All that is necessary is to subject the hydrates or solutions of potassa, soda, lime, and indeed any of the fixed alkalies or earths, to the action of a current of chlorine gas. If, instead of these, we pass a stream of the gas through solutions of the carbonated alkalies, equally efficient compounds are produced: and we shall hereafter see that other salts may also be employed for the same purpose.

The substance which has received the name of Labarraque's disinfecting liquid, is prepared according to his own formula, as follows:—2800 grains of crystallized carbonate of soda are dissolved in 1-28 pints of water; being put into a glass, two-thirds of the chlorine evolved from a mixture of 967 grains of salt with 750 grains of oxide of manganese when acted upon by 967 grains of oil of vitriol, previously diluted with 750 grains of water, are to be passed into it.*

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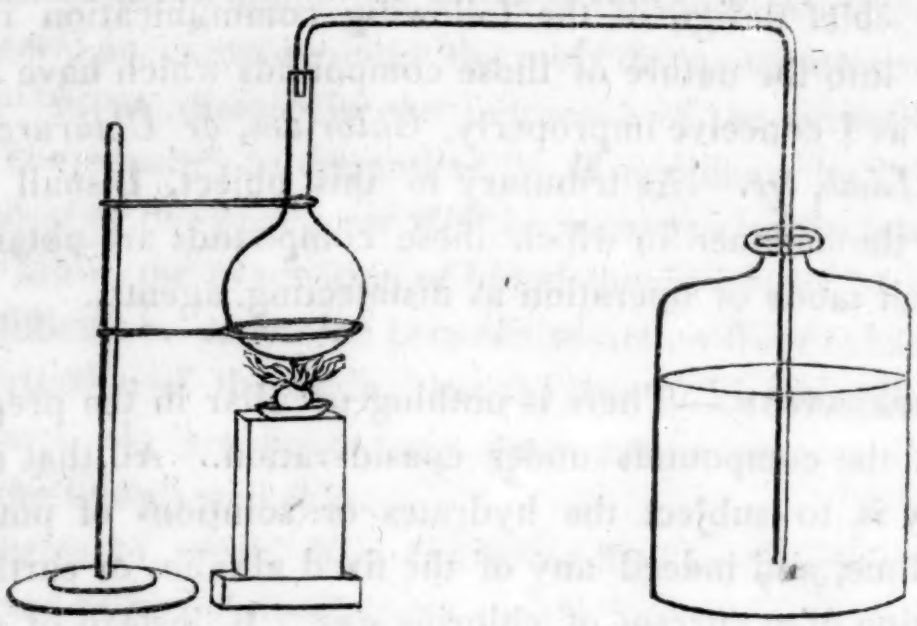
* I quote from Mr. Faraday's paper on Labarraque's liquid in Brande's Journal, New Series, Vol. II. 84, not having the original formula at hand.

The liquid may also be obtained in the manner proposed by M. Payen, which consists in the mutual decomposition of chloride of lime and carbonate of soda. But this method will seldom be employed, as all the valuable purposes of the article can be attained by the employment of the compound of chlorine and lime alone. This is now so extensively employed in the process of bleaching, that there is little difficulty in obtaining it at any time. When it cannot be procured, however, solutions of lime or soda may be easily charged with chlorine gas in the manner represented in the annexed cut.



Into the florence flask introduce manganese, common salt, and dilute sulphuric acid in the proportions above mentioned, taking care that it is not more than a third filled. The bottle may contain lime water, or solution of soda or its carbonate; and should be kept at the temperature of 60° Fahr. or below. Having now adjusted to the flask a bent tube, with one leg passing to the bottom of the vessel containing the solution, the heat of a lamp, or a few coals, is to be applied to the flask. By this means chlorine is evolved, and is absorbed by the solution. The heat should be continued until the evolution of chlorine has nearly ceased, which will generally be from fifteen to twenty minutes. The clear fluid is now to be decanted. This is the disinfecting liquor.

This disinfecting compound may therefore be obtained in either of the following ways:

1. By dissolving in water the common bleaching powder, usually denominated chloride of lime.

2. By passing a stream of chlorine gas through solutions of soda, lime, &c.

3. By passing chlorine through a solution of carbonate of soda, or by adding chloride of lime to dissolved sub-carbonate.

Chemical Constitution.—Upon this subject there has been, and still is, considerable dispute. I shall first advert briefly to some opinions which have been suggested, and then offer my own views concerning it.

M. Labarraque, to whom is due the discovery of the disinfecting nature of these compounds, does not appear to have understood their chemical composition, or the manner in which they act upon putrid matters. He, however, calls them chlorides or chlorurets of lime or soda, (*Chlorures d'oxide de calcium, et d'oxide de sodium.*) This name, though without much propriety, they have generally retained.

Dr. Granville, whose paper on this subject is published in a late number of Brande's Journal, gives it as his opinion, that the solution of chloride of soda, so called, is a mixture of dry chloride of sodium and neutral chlorate of soda, with an excess of chlorine equal to twice the bulk of the water employed in preparing the liquid, according to Labarraque's own formula. He infers that no such compound as chloride of soda exists in this liquid, and proposes for it the simple name of *Disinfecting Liquid of Soda*.

In another part of his paper, Dr. Granville undertakes to show that the singular properties of this liquid are owing solely to the chlorine, and in no way to the agency of the salts contained in it.

These views are controverted by Richard Phillips, who contends, that admitting no such compound as chloride of soda exists, the explanation of Dr. Granville cannot apply in the case of chloride of lime. As a proof that the action of chloride of soda does not depend upon the mere gas which

it holds in solution, he adduces the fact that it does not, even by ebullition, lose its bleaching property; and that it also retains its power to a considerable extent after evaporation to dryness. He also offers some other objections to the results of Dr. Granville's analysis, which it is not important to detail.*

Upon Dr. Granville's paper, Mr. Faraday remarks—"Unfortunately Dr. Granville has mistaken M. Labarraque's direction, and by passing chlorine to 'complete saturation' through the carbonate, instead of using the quantities directed, has failed in obtaining Labarraque's really curious and very important liquid; to which, in consequence, not one of his observations or experiments applies, although the latter are quite correct in themselves."†

Having mentioned these names, it may be considered presumptuous in me to interfere in the controversy. But it is proper to remark, that the views I am about to offer, were formed long before I was aware that the subject was undergoing discussion abroad, and were matured without particular reference to it. I claim attention to them only so far as they are supported by facts and experiments.

To arrive at correct conclusions concerning the nature of the substances under consideration, it is necessary that we should accurately examine all the circumstances which attend their formation, and the conditions which appear to be essential for this purpose.

The first point deserving attention is, that chlorine will not combine with the oxides of the alkaline or earthy metals, when *perfectly dry*. In the case of lime, this has been abundantly proved by the experiments of Dr. Ure. He states that he exposed dry lime in fine powder to a copious stream of chlorine for four days, but even at the end of that time, the powder had not sensibly increased in weight.‡ The same

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* Philosophical Magazine and Annals, Vol. I. 377—78.

† Brande's Journal, New Series, Vol. II. 92.

‡ Chemical Dictionary, 2d edit.

may be said of the oxides of the other above named metals: I believe it is an established law that they are not susceptible of combination with chlorine, at ordinary temperatures, when both are completely deprived of water. When these oxides are exposed to a high heat, chlorine effects their decomposition; oxygen being disengaged, the chlorine combines with their metallic bases. But these compounds of chlorine and the metals do not possess any bleaching or disinfecting powers.

If, instead of employing the dry oxides of sodium, calcium, &c. we take the hydrates of these oxides, or their solutions, and pass through these a stream of chlorine gas, their weight will in every case be increased, and we shall obtain compounds possessed of bleaching and disinfecting properties.

To what then shall we ascribe the difference in the results obtained? The presence of water is the only circumstance in which the cases are not parallel, and we must, therefore, look to this as influencing, in a great measure, the formation of these compounds.

Another fact worthy of notice is, that chlorine, when perfectly dry, exerts no action on vegetable colours, and probably not upon putrid substances, though I am not aware that the latter has been settled by experiment. But water at low temperatures dissolves or absorbs chlorine in considerable quantity; and this solution has the property of discharging vegetable colours, and was, indeed, for a long time employed exclusively in the business of bleaching. This solution, if kept in well stoppered bottles, will retain its powers for a great length of time; but if it is exposed to the air, or if its temperature is raised, chlorine is evolved, and with it all the bleaching powers of the solution are lost.

Having premised these remarks, I shall first notice the combination of chlorine with solution of soda.

When a stream of chlorine gas is passed through a solution of soda, after the manner directed by M. Labarraque, the chlorine is absorbed, and as it is said a chloride of soda is formed. But if additional quantities of chlorine are transmitted through the solution, after variable periods of time

decompositions take place, and new definite compounds are formed, which are permanent, and can be obtained in a separate state by subsequent analysis. These changes consist in the decomposition of water, the formation of chloric and muriatic acids, and the combination of these with the soda, forming the chlorate and the muriate of that alkali. In whatever manner these changes are effected, the correctness of the results is sufficiently proved in the ordinary process of obtaining chlorate of soda.

If then chlorate and muriate of soda (when dry, chloride of sodium) result from the long continued action of a stream of chlorine in a solution of soda, the chloride of soda, if it existed at all, must have existed previous to the formation of these acids and their action upon the soda. But as we shall hereafter see, there is, previous to these decompositions, nothing in the compound which could not have been obtained by passing chlorine through water without the addition of soda; much less, is there any evidence of a combination in definite proportions between the chlorine and soda.

If, now, instead of solution of soda, we employ the carbonate of that alkali, nearly the same phenomena will be presented upon the introduction of chlorine. Following the formula of Labarraque we shall obtain his disinfecting liquid, and that, as Mr. Phillips and Mr. Faraday have asserted, without the evolution of a particle of carbonic acid. If this is the fact, and the authority of these chemists is perhaps conclusive upon a matter so easy of proof, it follows that the carbonate of soda remains *entire* in the solution.

But when this process is long continued, decompositions take place similar to those which have been previously mentioned. Chloric and muriatic acids are formed, and these combine with the soda; and, as a necessary consequence, carbonic acid is disengaged.

Desirous of ascertaining whether there was any thing peculiar in the solutions of soda and the sub-carbonate, I prepared a saturated solution of sulphate of soda in water at 50° Fahr. and passed through it from two to three volumes of chlorine. The solution assumed a yellowish colour, and bleached in-

digo and turmeric powerfully. The same results were produced when I charged, in like manner, a solution of alum. In efficiency, so far as bleaching is concerned, I could discover no difference between the two last compounds and a like solution of carbonate of soda and chlorine.

Let us now pause for a moment, and bring into a narrow compass the facts which have been stated. It has been shown that these bleaching liquids may be formed :

1. By passing chlorine into a solution of soda.

2. By passing chlorine into a solution of carbonate of soda.

3. By passing chlorine into a solution of sulphate of soda ; and that too in the case of the carbonate without the disengagement of a particle of carbonic acid, and in that of the sulphate without the separation of a drop of sulphuric acid. Now, as these substances remain *entire* in the solution, if the properties of bleaching and disinfecting which appear to characterize the compounds under review, depend upon definite or chemical combinations of chlorine with the substances held in solution—each of the above must be distinct chemical combinations, though possessing similar properties ; and it is probable that a new chemical compound would be formed every time chlorine is transmitted through a different saline solution, and that too without having effected the least decomposition. This absurdity may be avoided by referring these properties to a cause which exists in each, and which is adequate to the explanation of all the phenomena : viz. the absorption of chlorine by the water in each of these solutions.

I am now prepared to notice some seeming objections to this view of the subject.

1. It is asserted by Mr. Phillips that the chloride of soda, as he terms it, retains its bleaching property to a considerable extent after evaporation to dryness. But this does not form an objection to the view which I have taken, unless he means to apply the term *dryness*, in the strict chemical sense. This, however, cannot be the meaning of the author, for I am satisfied that a temperature sufficiently elevated to drive off all

the water, will, at the same time, expel the whole of the chlorine, except indeed so much as is contained in the stable compounds, chloride of sodium and chlorate of soda. This total discharge of chlorine, as we shall hereafter show, is effected by mere exposure to the air, or more speedily by the agency of a stream of carbonic acid, and it would be strange if the heat necessary to drive off all the water should not produce the same result. Yet we should not be surprised, if the evaporation was carefully conducted, that the residuum when *apparently dry*, should still retain a small quantity of water, and that this last holding in solution a portion of chlorine, should exert feeble bleaching and disinfecting powers.

It is stated by Mr. Faraday, that a portion of Labarraque's liquor, prepared by passing chlorine through solution of carbonate of soda, being boiled, gave out no chlorine; "it seemed but little changed by the operation, having the same peculiar taste, and nearly the same bleaching power as before." From this he infers, that the chlorine is not in the ordinary state of solution, either in water or in a saline fluid, "for ebullition will freely carry off the chlorine under the latter circumstances."*

Two circumstances are worthy of notice in this experiment, viz.: 1. That no chlorine was given off during ebullition; and, 2. That after the operation the solution retained bleaching powers.

The first of these may be accounted for by a fact stated in a subsequent part of Mr. Faraday's paper, which is, that by boiling this liquid, a part of the chlorine acts upon the alkali to form chloride and chlorate. We should, therefore, expect the disengagement of carbonic acid rather than that of chlorine; but the evolution of chlorine, or carbonic acid, or both, depends upon the time the boiling is continued.†

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* Faraday's paper, as before referred to.

† When this liquid is boiled for a length of time, I am satisfied that chlorine is given off, and that it loses much of its bleaching power, although it *may* be boiled so as not to evolve chlorine.

To ascertain whether the second was peculiar to Labarraque's liquid, I took portions of the solutions of sulphate of soda, and sub-sulphate of alumine and potash, charged with chlorine as before mentioned, and subjected them to heat in glass vessels. After having been heated for five, and boiled rapidly for three minutes, portions were taken out and tested with indigo, and they were found to bleach, although not so powerfully as before. Even after five minutes' rapid boiling, they still had an effect upon the above test. In each of these cases, however, chlorine was given off during ebullition; a fact, arising as I conceive, not from any difference in the state of the chlorine, but in the nature of the salts held in solution.

I am not prepared at present to offer a satisfactory explanation of these phenomena; but it would appear from these and other experiments of a similar nature, that any saline substance held in solution by water, either by increasing its density or otherwise, tends to prevent or retard the escape of chlorine in a gaseous state. For it is freely admitted, that ebullition will completely disengage the chlorine held in solution by pure water. It would be an interesting subject of research to determine whether other gaseous bodies are similarly affected in such solutions.

Before leaving this part of the subject I shall notice one other peculiarity, in which the mere watery solution of chlorine resembles those of the salts which have been the subject of experiment.

It was ascertained by Mr. Faraday, that when a portion of Labarraque's liquor was evaporated by exposure to air, crystals were formed resembling those of carbonate of soda, which did not possess the slightest bleaching power.

Upon exposing to air a solution of sulphate of soda charged with chlorine, for three days, the bottom of the vessel was covered with crystals resembling this salt. But when these crystals were dried between folds of thin paper, and rubbed down in water to near saturation, they had not the least effect upon indigo or turmeric.

A pint of rain water was charged with chlorine until it bleached powerfully. Equal quantities of this watery solution were put into two porcelain vessels of equal size: the one exposed to a temperature of about 25° F., the other to a temperature of between 40° and 45° F. At the end of fourteen hours, a crust of ice, half an inch in thickness, was formed on the surface of the former. This was carefully detached and dried as much as possible by filtering paper at a low temperature. It had a faint smell of chlorine, but when dissolved in water at 45 it exhibited no bleaching powers; while the unfrozen water of this same vessel appeared to have lost none of its efficiency upon indigo or turmeric; nor had the solution from the other vessel, exposed at 45,° at all deteriorated. Portions of these different solutions were now added to equal portions of solution of indigo, with papers of turmeric, and set aside for two days, taking care to preserve an uniformity of temperature throughout the whole progress of this experiment. At the expiration of this time, the dissolved ice had not in the least degree changed the colour of the indigo, but the turmeric paper was slightly reddened: the other solutions were perfectly colourless.

These experiments, as I conceive, warrant the conclusion that the process of free and perfect crystallization expels chlorine, and thus destroys the bleaching powers of these substances. Is it probable that any definite compound of chlorine would be destroyed by this cause?

Passing now to the supposed chemical compound of chlorine and lime, it will be found that the explanations above given and the arguments employed, will also apply.

It has been stated, that dry lime in fine powder, though exposed to a copious stream of chlorine for several days, does not sensibly increase in weight. It may now be added that when chlorine gas is transmitted through the proto-hydrate of lime, there is an increase of weight of 50 to 60 per cent. It is, however, important to remark that this increase is by no means definite, but varies according to circumstances, depending chiefly upon the skill of the manufacturer.

The proto-hydrate of lime is supposed to be a compound of one proportional of pure lime and one proportional of water. This, when exposed to an atmosphere of chlorine, is converted, according to Welter, into a sub-chloride, which, according to him, is composed of

2 proportionals of lime,
2 proportionals of water,
1 proportional of chlorine.

The same chemist asserts, that when the above is mixed with water, it is immediately decomposed; one half of the lime is precipitated, and the other half remains in solution, combined with the whole of the chlorine, and consequently forming a neutral chloride. The sub-chloride is therefore obtained by saturating hydrate of lime with chlorine, and the neutral chloride by dissolving the sub-chloride in water, or by saturating lime dispersed through water, with chlorine.

The experiments of Dr. Ure are at variance with these ideas. He found that the solid residuum of a portion of the powder (sub-chloride of lime?) left on the filter after two successive solutions, contained a notable portion of chlorine, from which he infers that the chloride is but sparingly soluble in water. And he remarks that he never could observe that partition occasioned by water in the elements of the powder, of which Mr. Dalton and M. Welter speak."*

It appears, therefore, that no certain evidence exists that there is in the above case a definite compound of chlorine and lime. All the phenomena presented by this powder can be explained, and all the differences among chemists reconciled, by the adoption of the principles heretofore advanced.

The water contained in the hydrate of lime is essential to the absorption of chlorine, and we have just seen that the amount of chlorine absorbed depends upon the amount of

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* Chemical Dictionary, 2d edition. The existence of the sub-chloride of lime is also disputed by M. Houton Labillardière.—*Thenard*, 5th edit. Vol. II. p. 474.

water. Thus, when the pure proto-hydrate is employed, no more chlorine is absorbed than would have been taken up by the same amount of water without the lime. Hence we can account for that apparent partition of the elements of the powder when more water is added; and hence also the reason why the powder thus prepared should be considered as a sub-chloride. But when to the proto-hydrate we add an additional quantity of water, more chlorine is absorbed, for the very reason that more water is present; and the residuum obtained in this case when apparently dry, contains a larger quantity of chlorine than in the former case, when in fact it contains also a larger quantity of water.

The fact stated by Dr. Ure, that the combination of chlorine with the hydrate of lime follows no atomic proportion, and the well known fact that different commercial samples of the bleaching powder contain variable proportions of chlorine, accord with the remarks just made. For with equal care the quantity of chlorine and consequently the efficiency of the compound depends upon the quantity of water, either combined or in contact with the lime.

Thus it is evident that there is a strict analogy in the phenomena presented by the three supposed distinct compounds which I have examined. In each water is essential to the absorption of chlorine; in each the amount of chlorine absorbed depends upon the quantity of water; and in each by exposure to air or to heat, the chlorine is evolved or gives rise to two new acid compounds, which are definite and combine with the bases, forming muriates and chlorates. They are alike possessed of the properties of bleaching and disinfecting,—properties which are peculiar, and which belong also to a simple solution of chlorine in water. Now it is conceived more rational to refer these properties in every case to the same cause, provided this cause is constantly present, than to suppose that they belong to several distinct chemical compounds, as of chlorine and soda, chlorine and the carbonate of soda, chlorine and lime, &c.; and particularly so when, with a single exception, (the oxide of chlorine) the known and acknow-

ledged definite compounds of chlorine, do not possess these peculiarities.

We are therefore forced to the conclusion—

First, That there are no definite compounds of chlorine and soda, or of chlorine, and lime. Analogy would lead us to extend this to all the metallic oxides; and we might hazard the general assertion that chlorine is not susceptible of combination in definite proportions with the metallic oxides, at any temperature, or under any circumstances. For it should be recollected that in consequence of the superior attraction of chlorine for the metals, whenever the oxides are highly heated in contact with it, oxygen is evolved, and a chloride of the *metal* is formed.

Second, That the bleaching and disinfecting powers of the supposed chlorides of soda, lime, &c. depend upon the chlorine held in solution by the water which exists in the hydrated oxides, or in which these oxides are dissolved and suspended. And that the same explanation will apply to the various saline solutions which exhibit these powers.

Mode of operation as Disinfecting Agents.—The first correct views on this subject were suggested by Gay Lussac, in his memoir on Chlorimetry, who states that a solution of the bleaching powder abandoned to the air is gradually decomposed; a portion of the lime combines with the carbonic acid contained in the atmosphere, and the chlorine is at the same time disengaged. He also shows that this decomposition is retarded by keeping constantly an excess of lime in the solution. These views have been fully confirmed by the experiments of Gaultier de Claubry, which may indeed be considered conclusive on this point.

A solution of well saturated chloride of lime was submitted to the action of carbonic acid gas. After a few moments there was a disengagement of chlorine, and by continuing the operation for a sufficient time the whole of this gas was expelled. The liquid no longer exerted any action on colours, not even on infusion of litmus. Carbonate of lime was pre-

cipitated, which was afterwards re-dissolved in the excess of carbonic acid.

Air passed through a solution of potassa rendered caustic by lime, produced no action upon the solution of the bleaching powder. But when the latter solution was abandoned to the air for some time, it lost its power of acting on vegetable colours, and a precipitate of lime was produced.

The following experiments were performed by M. de Claubry, to ascertain still more directly what takes place during the action of a compound of chlorine on air impregnated with putrid miasmata.

"Air blown through blood which had been left for eight days to putrefaction, and which disengaged an insupportable odour, was afterwards made to pass through a solution of chloride of lime; carbonate of lime was formed, and the air came out without smell, and completely purified by the chlorine.

"The same operation was again commenced, by making the air pass through a solution of caustic potassa before sending it through the chloride; the air came out with a very fetid odour.

"Air was left for twenty-four hours in contact with some of the blood used in the preceding experiment. A portion having been put in contact with some chloride, the disinfection was complete in a few moments, and carbonate of lime was formed. The other part of the air was treated by caustic potash, and afterwards by chlorine; but it retained an insupportable odour."*

From these decisive experiments it appears that the carbonic acid given out by the putrid substance effects the evolutions of chlorine; which last combines with the constituents of the miasmata, and neutralizes them in some hitherto unknown manner.†

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* Ann. de Chimie, Vol. XXXIII. Nov. 1826.

† It is difficult to reconcile with this view of the subject the fact stated by Mr. Faraday, in the volume of Brande's Journal to which I have refer-

An attentive examination of the manner in which carbonic acid causes the evolution of chlorine, will perhaps throw additional light upon the chemical history of these disinfecting compounds.

It has just been stated, that a solution of the supposed chloride of lime, when abandoned to the air, loses its chlorine, and there is produced a precipitate of carbonate of lime. This process, however, requires nearly two months exposure. But the same thing also takes place when we expose two separate vessels to the air, in one of which is lime water, and in the other a simple solution of chlorine. At the end of several days the chlorine of the latter will be completely disengaged, and the lime of the former is converted into a carbonate. Again, a stream of carbonic acid passed through a solution of the chloride effects a decomposition in a few hours, or at least to so great an extent that it no longer acts on vegetable colours or putrid substances; and, at the same time, carbonate of lime is formed. Now the conversion of lime into carbonate, by the contact of carbonic acid, is not remarkable, and the evolution of chlorine is not to be regarded as an evidence of the decomposition of a compound of chlorine and lime or soda.

For the purpose of settling the latter fact by experiment, I charged some rain water with chlorine until it bleached powerfully. On passing through it a stream of carbonic acid, or simply blowing into it through a glass tube for half an hour, the chlorine was so far discharged as to leave the solution without action upon indigo or turmeric. This result I ascribe to the mechanical effect which the passage of a gaseous substance has in bringing successive portions of the solution into contact with the air, and thus facilitating the evolution of chlorine.

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red, viz. That when carbonic acid was passed through Labarraque's liquor of soda, equal to nearly 1300 times the volume of the fluid, very little chlorine was removed, and the bleaching powers of the fluid were but little diminished, though it no longer appeared alkaline to turmeric paper—unless we adopt the opinion suggested at the conclusion of this paper.

Now when carbonic acid is passed through a solution of the supposed chloride of lime, it combines with the lime and is precipitated in the form of carbonate. There remains then a simple solution of chlorine in water, from which the chlorine is disengaged by carbonic acid, as before stated. But when this gas is transmitted through a solution of soda, carbonate of soda is formed, which is soluble ; and the chlorine is then more difficultly disengaged, for the reasons which have been suggested when noticing the difference in the effect of ebullition upon simple solutions of chlorine in water, and upon various saline solutions charged with chlorine. In this way we can also account for the inefficiency of carbonic acid in removing the chlorine from Labarraque's liquid, as stated by Mr. Faraday. Further experiments seem still necessary to decide, whether the disengagement of chlorine from lime, soda, and carbonate of soda in solution, during the process of disinfection, is effected in precisely the same manner in each.

I have thus attempted to show, that the valuable properties of these substances are owing solely to the presence of chlorine in solution,—that a saline solution is to be preferred merely because the chlorine does not so readily escape and become a source of inconvenience to the perator,—and that, provided we employ a soluble salt, it is not material which one we select for the purpose. Before concluding my remarks, I shall briefly advert to the medical uses of these solutions.

Medical Uses.—Labarraque's attention appears directed to the disinfecting nature of these substances, by a prize offered in 1819, by the Society for the encouragement of National Industry in France, for the means of destroying the insalubrity of the workers in the intestines of animals,—for the use of musical instrument makers, and other purposes to which catgut and strings of the same kind are applied. He succeeded so completely in his object, that the prize of 1500 francs was awarded to him in October 1822. Labarraque

next directed his attention to the disinfection of corpses, of hospitals, lazarettoes, merchandise in quarantine, and the most filthy receptacles of Paris. The high success which attended his experiments was such, that in 1825, the Royal institute of France voted him a prize of 3000 francs.

The facts stated by Labarraque, and by authority of the Police of Paris, are conclusive as to the great value of these articles as a means of preserving the public health. It is to be hoped, that should occasion require, their value will be tested in our large cities.

These disinfectants are, moreover, particularly useful to the physician. It enables him, without risk or inconvenience, to examine bodies which have been disinterred, when suspicions arise as to the cause of death. A case is related by Orfila, in which a body was examined that had been buried thirty-two days, and in the hottest season of the year. When the grave was opened the odour was insupportable; but aspersions of the bleaching powder soon annihilated the infected odour. A somewhat similar case occurred during the last season in this city. Drs. McNaughton and T. R. Beck were called upon to examine the body of a person supposed to have been poisoned with arsenic. The disinterment of the body, which had been buried four or five months, took place late in the month of May. A highly offensive odour was emitted, which was completely and almost instantly removed by washing the body with the liquid, prepared according to the directions of Labarraque. In such cases, however, it is necessary to guard against the contact of the liquor with the stomach, or such parts or substances as are to be subjected to chemical examination.

In private dissections, and in the prosecution of pathological investigations, the use of these solutions affords the greatest convenience. It may serve as a caution to those who are not familiar with their use to remark, that the chlorine, either during the process of disinfection, or in its passage through the air, combines with hydrogen and forms muriatic acid. To avoid the injurious effects of this acid upon such instruments as are employed, it is necessary that they should

be carefully cleaned after use, and removed from its atmosphere.

Lisfranc and Labarraque maintain the opinion that these agents exert a power over the poison of small-pox and measles; and Mr. Alcock, who has written an interesting work on the subject,* asserts—that they have not only the power of destroying the most putrid effluvia arising from animal substances, but also the property when applied to the substances giving off these effluvia, of arresting or destroying the progress of putrefaction; and that it generally promotes the more speedy separation of the dead parts from the living than can be obtained by ordinary means. He remarks, "It very often is capable of changing the nature of malignant, corroding, and destructive sores, into the condition of simple ulcers. In many ulcers, not malignant, it is capable of greatly hastening the cure. In short, though not an infallible remedy, it is capable under the guidance of medical and surgical skill, sound judgment, and experience, of alleviating, and often totally removing, some of the most loathsome and distressing diseases to which the human body is liable; diseases which, too often uncontrolled by remedies previously in use, have hurried numerous victims to untimely graves."

The mode of employing the bleaching powder for the purpose of retarding or preventing putrefaction is quite simple, and may be effected at a trifling expense. It is thus given by Labarraque:

The powder (chloride of lime) is to be dissolved in about 40 parts of water, and thoroughly mixed; after which, the fluid is to be decanted.

With this liquid the entire surface of the body should be freely sprinkled, by means of a watering pot, or in any other convenient manner. This sprinkling should be repeated twice or oftener daily, according to the temperature, degree of putrefaction, &c.

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* An Essay on the Use of the Chlorurets of Oxide of Sodium and of Lime, as powerful Disinfecting Agents, &c. &c. by Thomas Alcock.

Should putrefaction be far advanced, or the period the corpse is intended to be kept considerable, it is better to surround the body with a sheet moistened in the solution, and to renew the moistening of it frequently. By these means, all putrefactive odour in the apartment will be perfectly obviated.

But as before hinted at, when the corpse is disinterred for judicial examination, particularly where poisoning is suspected, greater caution is necessary. If blood, or any other fluid proceeding from the body, have flowed upon the ground, which may become the subject of analysis, it should be carefully collected; and when this has been done, the disinfection of the ground may be performed by throwing on a small quantity of the solution. During the dissection of the body also, care must be taken that no portion of solution comes in contact with such parts as are to be examined by tests.

For directions as to the manner in which these compounds are to be applied to ulcers, &c. we must refer to the work of Mr. Alcock, before quoted. In general, it may be remarked, that the strength of the application should be so regulated as to avoid giving any considerable pain. From three to six proportions of distilled water, to one of the concentrated solution, will suffice for ordinary use; but sometimes its immediate application undiluted, when the surface is very foul, may be made, not only without injury, but with decided benefit.

ART. IV. *On the Uvularia grandiflora, as a remedy for the bite of the Rattlesnake.* Read before the Albany Institute, Feb. 29, 1828, by J. G. TRACY, Esq. of Albany.

IT has long been known that the Indians made use of a vegetable remedy for the bite of the rattlesnake; but there appears to have been much uncertainty respecting the plant which they resorted to for this purpose, and I believe that no description of it has yet been published by which it can be distinguished.

At the time the boundary-line Commissioners were engaged in the surveys made of the islands near the head of Lake Erie, in the month of August 1820, one of the men in their employ was bitten by a rattlesnake, and Hank Johnson, a hunter attending on the party, was applied to for assistance. This person is a white, whose parentage is unknown. When a child, during the revolutionary war, he was captured by the Seneca Indians in the western part of Pennsylvania, and has since that time remained among them, adopted by the nation, to whom his habits, dress, and appearance entirely conform, and he is now one of the chiefs of that part of the Senecas who reside on the Cattaraugus Creek. In the late war, he attached himself to the forces under the command of General Porter, on the Niagara frontier, and particularly distinguished himself at the battle of Chippewa, and at the sortie from Fort Erie, by his courage, strength, and fidelity: and in the former action, probably saved the life of Major Frazer, who being wounded, was carried by him on his back to a place of safety.

He immediately collected some plants, and gave to his patient a decoction of the roots and leaves; and after chewing, they were also bound upon the wound. No other remedy was administered, and the man recovered.

Soon after this a dog, belonging to one of the party, was bitten by a rattlesnake severely in the head and tongue. Hank was absent at the time, and before his return, some hours after, the animal was excessively swollen, and apparently near dying. The same remedy was then applied, by pouring a decoction of the plant down his throat, and binding the roots and leaves on the wounds, and the dog very rapidly recovered.

On hearing these circumstances related by General Porter, W. A. Bird, Esq. and Major Fraser, and the plant minutely described by them, I had little doubt that it was the Uvularia grandiflora, and collected some specimens of that plant which those gentlemen examined, and all of them pronounced it to be the same plant which had been so successfully used under their observation. Its identity was afterwards still further es-

tablished by a specimen which it was found General Porter had preserved at the time the cures were performed.

Those persons who are generally acquainted with the plants which are found in the northern states, will agree with me in opinion, that no person of ordinary observation could mistake the perfoliate uvularias for any other plant; and the height of this being described as two feet, determines it to be the U. grandiflora, which alone of the perfoliate uvularias reaches that height.

I therefore think that the concurring opinions of the gentlemen whom I have named, is conclusive proof that the plant I submitted to their examination must be the same with that which was made use of by Hank, and which is the

Uvularia grandiflora—*Smith.*
U. —— lanceolata—*Willdenow.*
U. —— perfoliata β major—*Michaux.*

a plant familiar to every botanist, and very generally diffused.

I am aware that the bite of a rattlesnake is not always fatal, even if the wound is entirely neglected, but there is every reason to believe that the usual remedy was resorted to on this occasion; and at a season of the year when the bite of a rattlesnake is known to be peculiarly dangerous, it is hardly possible that the man and dog could have both recovered without some powerful aid.

DESCRIPTION.

UVULARIA, corolla inferior, 6-petalled, erect; claws of the petals each furnished with a nectariferous cavity. Filaments, very short, growing to the anthers; stigmata reflected, capsule 3-angled, 3-celled, 3-valved, valves septiferous in the middle; seeds many, subglobose, arillate at the hilum.—*Nuttall's Gen.*

U. *grandiflora*, leaves perfoliate, oblong acute; petals smooth within; anthers somewhat obtuse; nectaries roundish.—*Smith Ex. Bot.*

U. *perfoliata* major.—*Michaux Fl.*
U. *lanceolata.*—*Willd. Sp. pl.*

Hab.—Shady hills, in fertile soil, and among rocks: from Canada to Carolina.

It has a general resemblance to Solomon's Seal: leaves alternate, smooth and perforated by the stem, which is forked near the top: bearing one, rarely two, drooping liliaceous yellow flowers early in May.

ART. V. *Cases of Compound Fracture of the Elbow-joint successfully treated without Amputation.* By ALEXANDER H. STEVENS, M. D. Professor of Surgery in the University of the State of New-York.

COMPOUND fractures of the elbow-joint, especially when attended with much laceration of the soft parts, have been usually considered as requiring amputation.

The case of a mulatto lad, who had suffered an accident of this kind several years since, first led me to doubt the soundness of this doctrine. His friends refused to permit his arm to be amputated, yet he had an easy recovery, notwithstanding the extensive injury of the soft parts which attended the accident.

I am not aware that the limb has been saved in any case in which there was laceration of the brachial artery, and of the lower extremities of the biceps and brachialis muscles. The laceration of the brachial artery is considered by Boyer as rendering amputation necessary, and the general inference from the opinions advanced and the cases cited in the elaborate treatise of Sir A. Cooper on Fractures and Luxations of the Joints, is also in favour of amputation under circumstances such as I have mentioned. I venture to express the opinion that the laceration of the brachial artery, and generally of the main artery of a limb, does not add to the severity or danger of either compound fractures or compound dislocations: on the contrary, the inflammation is moderated, and the suppuration is less copious than in similar cases where the continuity of the artery is preserved. The interruption

to the flow of blood through the main artery has a most powerful influence in moderating inflammation of parts which derive their supply of blood from it; and there is no great danger of mortification when ordinary care is taken to preserve the natural warmth of the limb, and the use of cold washes, especially those containing lead, is avoided. At least I have never witnessed it in some ten or twelve cases which I can call to mind.

Whatever value may be attached to these opinions, the following case would seem to support them, and to show the powers of nature, under very unpromising circumstances.

David Skeen, a robust middle aged man, given to intemperance, but not to an extent sufficient to have impaired his constitution, fell in the streets while intoxicated, and suffered a compound luxation of the elbow-joint. The forearm was flexed upon the arm. The two bones of the forearm having been thrown behind the condyles of the humerus, the coronoid process of the ulna was lodged in the cavity destined for the olecranon process, the head of the radius being thrown behind the outer condyle. The integuments in the bend of the elbow were lacerated transversely to the extent of two and a half inches, the tendon of the biceps and the brachialis internus rent asunder, the nerves stretched before the condyles of the humerus, and the brachial artery torn and projecting from the wound. He was brought to the hospital about seventeen hours after the accident. No considerable hemorrhage had occurred: the lower end of the torn artery was not visible, but the upper extremity could be seen, and still pulsating. Its extremity was contracted to the size of a crow quill, but not pervious. Deeming it prudent to place a ligature at a point where its vascular communications remained, I laid it bare and tied it with a single silk thread, about an inch above the lacerated extremity. The lower lacerated extremity of the vessel was not sought for, and never gave out any blood. Being curious to examine the torn extremity, I cut off about half an inch: the whole of this part, when laid open, was found to be filled with a clot, and the

portion nearest the lacerated end was contracted to one half the natural size.

The first attempt at reduction was made by pushing the upper part of the bones of the forearm, from the articular surface of the humerus, while extension was made on the forearm in a fixed position. The ulna was thus reduced, but a repetition of the same process, did not restore the radius to its proper situation. The reduction, however, was readily affected by extension applied to the forearm in an *extended* position; the upper part of the radius being at the same time pushed backward.

After the reduction, the man was put to bed with his forearm fixed at a right angle, and laid across his chest; the wound was lightly dressed with dry lint, or slightly approximated with slips of adhesive plaister; a lotion of spirits and water was applied near the wound, but not low down on the forearm. He was bled to sixteen ounces. He passed a good night after the reduction. On the following day, the fingers were somewhat cooler than natural; the wash was therefore applied warm. After a few days a poultice was substituted. Pulsation was first felt in the radial artery, on the third day after the accident. This was continued about four weeks, when the suppuration closed.

No severe symptoms or untoward accident occurred, except the burrowing of matter at the lower part of the joint, for the discharge of which, a counter opening was made by the intelligent House Surgeon, Dr. Cornell; and the formation of a small eschar over the internal condyle. The forearm was kept immoveable at right angles to the humerus, with a view to induce anchylosis, as the power of flexion would be lost, in consequence of the rupture of the brachialis, and the tendon of the biceps.

From the time of the accident until his discharge from the hospital, was a period of eight weeks; a very slight degree of flexibility of the elbow remained after the cure; but the power of the flexing and extending the hand and fingers was as good as ever.

ART. VI. *Case of Nyctalopia.* By JOHN WATTS, Jun. M.D. one of the Physicians to the New-York Hospital.

JOSEPH CORRIE, a seaman, born in Norway, aged 30 years, of middle stature, stout and muscular, says he has enjoyed good health; his countenance, however, is expressive of anxiety and disease. He was admitted into the New-York Hospital on the 27th day of January, 1823, on account of nyctalopia, or night blindness, for which he could assign no cause, being perfectly well at the time of its occurrence, which was about six months previous to his admission. At that time he was on a voyage from Russia to France, and at sunset, while engaged in reefing topsails in a gale, he was suddenly deprived of sight, and since that time he has regularly experienced the loss of vision on the approach of night, being unable to distinguish any thing whatever without the aid of a very strong light. He can see the blaze of a candle, but describes it as appearing like a ball of fire, and is incapable of distinguishing the wick. There is but little mobility of the pupils of his eyes, the iris contracting with a remarkable degree of slowness; his pulse is hard and frequent, and there is occasionally some increase of excitement at night. He sometimes complains of pain in his head, particularly about his forehead and temples, and says that there are appearances of half moons revolving around his eyes during the day, and that they are more apparent in cloudy weather.

Cupping glasses were applied to his temples, sixteen ounces of blood were taken from the arm, and active cathartic medicines were administered, and persevered in for several days, without any apparent benefit. Blisters were then applied to his temples, and he was put on the use of calomel and opium morning and evening; and in about three weeks his mouth became affected: no improvement, however, having taken place, his medicines were directed to be stopt.

March 3d.—The patient now coming under my charge, twenty ounces of blood were taken from his arm, and a solu-

tion of salts and tartar emetic was given to purge him freely through the day. Blisters were applied over his forehead, and he was kept under the continued influence of tartarised antimony. On the 5th, two days afterwards, he again lost twenty ounces of blood, the medicine had operated very freely, and he began to distinguish objects which were before perfectly invisible. The appearances of half moons which he formerly complained of revolving around his eyes, were sensibly diminished, annd he was put on the use of digitalis, beginning with fifteen drops, three times a day. At the expiration of two days, on the evening of the 7th, he was again bled to the amount of sixteen ounces, after which he could tell the hour by a watch: previously to the bleeding he could not distinguish the hands of the watch. A dose of calomel was administered to him at bed-time. For two days he continued to improve, and all the crescentic appearances, excepting one, vanished from before his eyes, and this was more dim than usual.

On the evening of the 10th, three days afterwards, it was again necessary to bleed him, and after losing 20 oz. of blood, he could see to read common size print. Blisters re-applied to the forehead and temples and his other medicines were all continued. On the following day, being cloudy, objects appeared to him as if seen through a mist; he complained of headache, and shaking his head briskly produced a sensation of something rolling about within it. In the evening he became excited, and was bled thirty eight ounces, and immediately afterwards could recognise a person at the farther end of the ward, and could see distinctly enough to read small print by candle-light. He continued his medicines, and increased the doses of digitalis; but as he soon again complained of headache, and his eyes now became watery, the lids adhering together in the morning, he was bled on the 14th, three days afterwards, to twenty ounces, and continued to feel better for the two succeeding days, until the 17th, when he felt considerable pain in the forehead, and between his eyes, accompanied by vascular excitement, all of which subsided with the abstraction of twenty ounces of blood.

As his vision was not yet uniformly distinct, and he was occasionally liable to some excitement, attended with headache, he was directed to take an emetic of ipecacuanha regularly every morning. This he continued to take, at the same time using the salts and tartarised antimony, and one hundred drops of digitalis daily, until the 2d of April, when he was discharged, with an appearance of high health, and an augmentation both of flesh and strength, having lost nearly 180 ounces of blood, and abstained as much as possible from the use of food.

ART. VII. *A Case of Protracted Indigestion, simulating other diseases, and finally cured by the Oxide of Bismuth.* By DANIEL L. M. PEIXOTTO, M. D.

ALTHOUGH I have adopted the term indigestion, in the caption to this article, to designate the following case of disease, it has been rather from accordance with general usage, than from a belief that gastric derangement is the essential, or even the principal feature of this or of similar affections. It may with far greater propriety be referred to that more comprehensive class of affections, which have been so happily grouped together by Dr. Marshall Hall, under the general appellative Mimosis. The characteristic traits of these are a general morbid affection, combined with a great and multiform variety of topical symptoms, the predominance of one or other of which produces a close imitation of other diseases widely different in their nature. Dr. Hall observes of this class, that "they have been variously, and perhaps too exclusively, attributed by some authors, to a state of derangement in one or more of the chylopoietic viscera; and, by others, to an unequal and undue distribution of the blood, by which a state of arterial excitement, or of venous congestion, is induced in some particular organ." Into their pathology, however, Dr. H. declines entering. But are we not warranted by an accurate analysis of the cases of disease described by him, to refer them

to one essential cause ; and that cause, a general disturbance of the balance of the nervous power, or of the excitability of the system ?

I am aware that the fashionable doctrines of the day almost exclude the idea of disease ever affecting any other than the sanguiferous system, and that locally, or confined to a particular organ. Thus, in the cases under consideration, inflammation, whether acute, or sub-acute, or chronic, but still inflammation is always deemed sufficient to solve the whole mystery of those proteiform disorders, hitherto termed nervous, hypochondriac, or hysteric. But will a cautious examination of all the symptoms, studied carefully in their origin, progress, and termination, and more especially of the causes and treatment, of these affections, confirm this simple and ingenious, but as it appears to me, very delusive hypothesis ? Nay, more, will post-mortem examinations, on which so much reliance has been affected by its supporters, bear them out in their views? Will these not rather demonstrate that the most serious disorganization may have been slowly taking place during life, while there have been few or no previous urgent symptoms of disease; and, on the other hand, that the most afflictive sufferings have not been accompanied with proportionate, or even corresponding changes of structure, discoverable after death, in the organs supposed to be principally affected ? And moreover with respect to post-mortem examinations generally, it is no more than truth will warrant to observe of them, that they are at all times a fallacious test of correct reasoning in relation to the essence or nature of particular diseases, as they are frequently the results not of the principal disease itself, but of some other disease, with which it may have been accidently complicated ; frequently the products of death not of disease ; and at all times subject to much doubt and suspicion, according to the varying optics of theorists or speculative anatomists.

Setting these then aside, all the other considerations referred to will evidently point out the nervous system as being the especial seat of these disorders, and the unequal and fluctuating distribution of its influence to different organs, as

the immediate cause of the numerous forms with which they are endued. That arterial excitement is frequently complicated with these diseases, nay, even excited by them under particular predispositions, cannot be denied. This very fact, however, sufficiently establishes the independent existence of the two affections. Above all, the treatment which is found to be most effectual in mitigating or entirely removing these complaints, even when most severe, puts an end at once to the supposition of their being always dependent on, much less, identified with phlogosis of the stomach, or of the digestive membranes.

It will, however, be freely admitted, that in all cases in which the nervous system is deeply implicated, the digestive organs, and especially the stomach, must participate not inconsiderably in the general sufferings. And this is explained in part, by the great supply of nerves with which these organs are pre-eminently enriched ; and in part, by the very powerful sympathies, especially subsisting between the stomach and the brain.

Should the following case fail in elucidating these few remarks, it is hoped, that it will prove sufficiently interesting as confirming the benefit to be derived from the use of a medicine, somewhat neglected of late, and very undeservedly condemned by the exclusive theorists, to whose erroneous views of the class of diseases in which its use is particularly indicated, I have briefly referred.

Mrs. H. aged thirty-four, of a light complexion and delicate habit of body, was first affected, three years ago, with a series of morbid symptoms highly distressing to herself, perplexing to her physicians, and obstinately resisting every method of treatment. The earliest symptom, and one which continued to the present time, was nausea and vomiting in the morning, after rising from bed, preventing all indulgence in breakfast. When this symptom first occurred, the patient supposed herself to be pregnant, but in this idea she was soon undeceived, no suppression of the menses following, nor has this function been at all interrupted throughout her complaint. Shortly after the establishment of this symptom, she observed an occasional stricture in her chest, especially

after an indigestible meal, with frequent cough and viscid expectoration. These latter symptoms were at one time so urgent, that she was bled and blistered therefor, but without relief. She next experienced a pain in epigastrio, which induced a southern physician, after examining her case, and considering it to be hepatic congestion, to salivate her freely. This operation, at all times painful and distressing, proved especially so to her, and finally aggravated all her sufferings. The mesenteric glands were next supposed to be affected, and an appropriate treatment was pursued without success. She had latterly been ordered an emetic, which had very much increased her distress.

The following was her condition when I examined her :— Her pulse was about one hundred in the minute, but soft and compressible, conveying the idea of irritation. It differed, however, according to exercise of mind or body, easily quickened by motion or thought, and as easily lowered by rest.— The breathing was natural, and unattended with pain or stricture in the thorax ; ascending the stairs, however, rendered it short and uneasy ; the same effect was produced by indigestible aliment ; and after a heavy supper, or exposure to damp air or cold feet, asthmatic paroxysms were frequently induced, especially during the night. Cough would then be troublesome, and it was only relieved by expectoration.— The matter spit up was viscid and frothy. Her mind was in general serene, but easily influenced by external circumstances, such as the weather, company, &c. The nervous system was excessively irritable ; frequent tremor, particularly after exercise, with a tendency to perspiration, especially on the forehead, neck, and breast; fluttering at the epigastrium, and palpitation of the heart, not uncommon ; headache, like the clavus hystericus of Sydenham; watchfulness ; incubus.

The countenance was sallow, dark livid areolæ surrounded the eyes, a clammy moisture hung on the cheeks, and the lips were exangueous.

The tongue presented its papillæ enlarged, the edges in-

dented by the adjacent teeth, which were encrusted with tartar. Fauces were very apt to feel dry.

The stomach was very irritable ; it regularly rejected its contents every morning after first rising from bed. These contents were a frothy spumous water, occasionally mixed with bile. This morning sickness was evidently of a periodical nature, and added much to the misery of the patient. After it was over the stomach seemed to regain its strength throughout the rest of the day, and retained whatever was eaten.—The appetite was precarious, capricious, and variable. Beer was almost the only article the patient relished, and the only one from the use of which she perceived some relief. There were occasionally wandering pains about the cardiac orifice, but no tenderness on pressure in any part of the hypochondriac region.

The bowels were generally unaffected throughout the day, but after a few hours sleep the patient was nightly aroused by a call to the water-closet, and, as in the morning, the vomiting periodically returned, so she was nightly wasted away by a copious diarrhœa. The discharges were watery, dark-coloured. and offensive, and frequently as numerous as twenty in a night. The skin was in general dry—extremities apt to be either very cold or glowing hot. The urine was scanty, but always limpid and clear. The catamenia were regular.

The muscular strength was much impaired ; great emaciation and loss of weight had taken place.

Towards the close of the disease there was a bloatedness of the face and integuments, which very much alarmed the patient and her friends, inducing a suspicion of the existence of a dropsical effusion. As the more important symptoms of the disease had, however, begun to yield, this was not specially attended to, and it gave way along with the removal of the disease.

Such was the condition of my patient, and so aggravated had her sufferings become from its long continuance, and so exhausted her patience, that she abandoned all hope of relief. Her life was literally a burden, and it was with doubt and uncertainty I undertook to administer to her. Profiting,

however, by the want of success which had attended all previous attempts, and carefully analyzing all the symptoms of the case, I determined upon the following indications.—First, to excite a new and powerful action in the general system, which might tend to equalise the distribution of the nervous influence, and restore tone to the parts rendered languid by the long duration of the disease. Second, to obviate particular symptoms. The first indication was to be accomplished by tonics. The second by astringents, and a diet and regimen regulated according to contingencies.

The tonic of which I made use was the oxide or subnitrate of bismuth, in pills of from three to five grains each, mixed with gum tragacanth, and repeated thrice a day. The bitter infusion was also taken. At first the bismuth produced very unpleasant impressions upon the brain and nerves. These were allayed by the intervention of gentle laxatives, and obviated by giving a less quantity of the bismuth. The astringents used were kino and Dover's powder. It is unnecessary to enter into minute details of the treatment; it is sufficient to state the result. In two weeks the vomiting was entirely checked, in three the diarrhœa, and in six weeks she had regained her health, and begun to recover flesh. She is now perfectly well, and weighs twenty-five pounds more than she did during the summer; a certain test, according to Dr. Marshall Hall, of perfect recovery.

It will be perceived, that in this case no active purgatives, no leeches, nor emetics, nor even a particle of mercury was used.

Art. VIII. CASES IN MORBID ANATOMY.

Case I. *Disease of the Stomach, Pancreas, and Liver.* By Henry Schenck, M. D. of Lebanon, Pennsylvania.

The characteristic symptoms of diseases, however well-marked and recognised generally, are nevertheless discovered

to have been deceptive occasionally, upon post-mortem examinations. Whenever such cases occur in the practice of a physician, and permission can be obtained to institute an examination after death, he cannot, in my opinion, render the profession a greater service than faithfully to narrate them for publication in some medical journal. A conviction of this kind has prompted me to relate the following case.

In the spring of 1827, Dr P. Jordan, of this place, was attacked with symptoms unequivocally denoting dyspepsia; and although every remedial agent had been tried, and every dietetic precaution observed on his part, yet the disease appeared to increase in severity, and to bid defiance to every attempt to arrest its career.

In June last, he suffered much from distention of his abdomen from flatus, which daily came on in paroxysms, and continued but for a short time, during which his respiration was impeded. The distention of the abdomen, it was supposed, occasioned the difficulty of breathing, by lessening the dimensions of the thorax, thereby interrupting the respiratory functions. The hepatic system appeared to be free of disease, and the intestines were generally in a soluble condition. About a week before his death, which happened on the 3d of July, his stomach rejected every thing that was taken into it, and save the vomiting, there was no other indication of his complaint being gastritis.

In short, it was now believed that it was a scirrhus affection of the pylorus, which was beyond the reach of human skill. The irritability of his stomach was such, that the liquids, food, and even the medicines calculated to allay it, never remained longer with him than an hour at furthest, when they would be rejected. This continued to the hour of his dissolution. Permission being obtained, on a post mortem examination the *villous coat of the cardiac portion of the stomach* was found to have suffered much by chronic inflammation, the *pancreas* somewhat indurated, the *right lobe of the liver* much enlarged and thickened, and nearly a quart of serum in the cavity of the thorax. In the case of Doctor Jordan it was impossible, from the symptoms, to suspect so

many organs to be affected by disease. The almost incessant vomiting would have indicated the existence of inflammation of the stomach, but as the pain of which he complained in the epigastrium was always relieved by pressure; as he was free of fever, and as his prostration of strength was inconsiderable, the disorder with which he was afflicted was confidently supposed to be a scirrhus affection of the pylorus rather than gastritis. He never had any pain in the region of the liver, and he could lie with ease on his left side, so that this organ was believed to be sound, and as his dyspnœa only existed and continued during the distension of the abdomen, it was attributed to the latter circumstance. It may, perhaps, be proper to remark, that his habits of life were correct and exemplary.

CASE II. *Disease of the Uterus.* By JOHN W. GLONINGER, M.D. of Lebanon, Pennsylvania.

IN diseases of an obscure and protracted nature, physicians, upon autopsical examinations, frequently find themselves to have been mistaken in their pathological views. Hence the necessity and importance of such examinations. The salutary tendency resulting from them to humanity ought to be a paramount consideration with relations and friends; but, on the contrary, the practitioner has very often, unfortunately, to contend with their prejudices, which form an insuperable obstacle to the consummation of his desire to discharge his duties for the benefit of the living.

The subject of this communication, Mrs. B———, at the time of her decease, was 44 years of age. Ten years ago in a state of pregnancy, and when advanced a little beyond the fourth month, she received a fall in descending a flight of stairs, which caused an abortion. From this period her health became impaired, and she frequently complained of pain in the hypogastric and lumbar regions. Her abdomen began to increase gradually until the time of her demise, when it really was of a prodigious size. She had frequent

miscarriages; and when not pregnant, her catamenial visitations were very irregular as to time and quantity, and in the interval she was much troubled with a leucorrhœal discharge, and occasionally with dysuria.

The physicians whom she had consulted, considered it an *ovarian affection*, and upon an examination per vaginam, it evidently appeared that the ovarium on the left side was very much enlarged by disease. She tried every means that had been suggested by physicians of celebrity, but all appeared to be only palliative, as her situation daily became more alarming and distressing; and her death no doubt was accelerated by her having placed herself under the care of a vile pretender of physic, who purged her every other day for several weeks in succession, and, to cap the climax of his ignorance, prescribed medicines for the expulsion of a *tape-worm*, with which he confidently asserted she was afflicted. This treatment, as was to be expected, occasioned great debility, and she died hectic in January last.

Upon a post-mortem examination, I found in the abdominal cavity nearly *two gallons of pus;* the uterus, in a *scirrhous state*, of an enormous size, extending a little beyond the umbilicus, and occupying chiefly the left iliac and lumbar regions. The cavity of the uterus was entirely obliterated, and its substance very much thickened and indurated, and upon weighing it, a few ounces were only lacking of *seven pounds*.

Both ovaria participated in the disease, as they were somewhat larger than usual, and the fallopian tubes had a cartilaginous appearance.

ART. IX. *Effects of Venesection in Abdominal Dropsy, supervening on a suppression of the Catamenia.* By ROBERT BAYARD, M.D. of Nova Scotia. Communicated by Dr. Watts.

MISS ELIZA R——, aged 17, of a delicate constitution, and slender form of body, the daughter of a respectable farmer, was for a long time subject to occasional indispositions, which

were referred to irregular menstruation, for which aloetic cathartics and tonics were given, according to the urgency of symptoms.

Nov. 23d, 1820.—I was first called upon to visit her, in consequence of a tumefaction of the abdomen, which was tense and evidently fluctuating. At this period the swelling was uniform, and equal in size to a pregnancy of the fourth month. The patient, however, at times imagined that one side was more prominent than the other; exciting a suspicion that the collection existed within the ovarium. The bowels were costive—urine scanty—pulse quick and feeble—appetite much impaired—the body emaciated—the countenance pale—strength reduced—the breathing somewhat oppressed in the horizontal position—skin dry—the catamenia have not appeared for several months. Her menstruation has always been somewhat irregular, both as respects time and quantity. From the history of the case and symptoms, I immediately resolved on the propriety of treating it as a dropsical affection; although I was not satisfied whether the disease existed in the ovarium, or whether the effusion was within the abdominal cavity. I put my patient under a course of cathartic and diuretic remedies; viz. pulv. jalap, c. sup. tart. potass, 1 oz. pro dosi, repet. mane et vespere ad alv. plen. solut. An emetic was previously given, with a view to rouse the action of the absorbents. After the cathartics had operated freely, a mixture of ether nitros, c. ol. junip. was given, and the bowels kept purged with aloetics, as best calculated to irritate the rectum and uterine system. The abdomen was rubbed with the ung. antimon.; and the acet. scill. was given both as a diuretic and expectorant, to relieve a severe cough, which threatened phthisis pulmonalis.

Dec. 29th.—The symptoms continued to increase, as well as the size of the abdomen—the medicines were continued—the muriated tincture of iron was given as a tonic and diuretic also. An effervescent mixture was given to relieve vomiting, which occurred at times partly from the irritation of the medicines and partly from constitutional derangement.

Jan. 4th.—The symptoms began to show some abatement, and the abdomen, which was kept swathed, began to reduce in size—the urine increased in quantity—and there was hope that the case was going on to a favourable termination, when from omission in taking the medicines, the symptoms returned more obstinately, accompanied with very violent cough.

Feb. 1st.—The former plan of treatment was resumed as vigorously as the state of the stomach and system would admit; but it appeared to give no relief—the ether nitr. c. ol. junip. was omitted, and the sal. diuretic was given in doses as large as the stomach could bear. The kali ærat. saturated with vinegar, was also given. The cathartics were also given at intervals, as before prescribed—and large doses of nitrous ether, with as much cream of tartar in powder, and gin punch acidulated with the cream of tartar as the stomach could bear. The abdomen still gained in size, until it equalled that of the ninth month of pregnancy. My patient as well as myself, began to despair of success; and as she grew very weak, I discontinued her medicines. I may observe, that during her former treatment she had been several times electrified. On making farther inquiry into her case, I was told, that occasionally a few drops of blood distilled from her nose, notwithstanding the pale, sharp, emaciated appearance of her countenance; and I observed an indolent tumour of a phlegmonous character on her face and hands. I was led to grasp at this as a favourable indication, with reference to the cause of her complaint. I was led to hope, if I could alter the action of the intestinal absorbents, or rather increase it, and check that habit which the exhalents had acquired, I might arrest the further deposition of water, and trust to the vis medicatrix naturæ for the removal of what was present; and bearing in mind that power inherent in the constitution, of supplying its deficiencies from the loss of blood by an increased exertion of the chylopoietic viscera, I determined to put their energies to the test.

April 5th.—Notwithstanding the debility of my patient, I bled her. When the bandage was put on her emaciated arm, the flaccid vessels filled themselves tardily; and indeed the

vein appeared more like a blue streak beneath the skin than a full tube. I withdrew four ounces of blood: it was very dark, and came away but faintly over the orifice. I desired my patient to be put on a generous diet. I gave pills of myrrh and aloes as relaxants, and of the extract gentian as tonics.

April 11*th.*—My patient felt no inconvenience from the bleeding. Abdomen, which before was gradually increasing, has not enlarged any more: appetite still very bad. On applying the bandage on the arm, the vessel fills more readily. I again withdrew six ounces of blood; it flowed more freely, nor did it produce any fainting or unpleasant sensation. I left a mixture of the nitrous acid, but as it occasioned nausea, it was discontinued. The ærated kali and acid. tartaric was given as an agreeable beverage. Laxatives were given pro re nata.

April 19*th.*—My patient seems manifestly better; the abdomen, which was before tense, is now flaccid and smaller; the blood-vessels on the arm appear fuller and tense, swelling quickly on the application of a ligature. The countenance is more lively; appetite somewhat improved; pulse quick, but stronger; and my patient, who is naturally of a desponding temperament, is cheered with the prospect of recovery. Statim abstrah. sanguis ad ℥viij.

Third bleeding.—The blood which, at the first bleeding, scarcely ran over the side of the arm, now springs with a full arch.

The compound tincture of benzoin is now given as a warm stomachic.

April 24*th.*—The tumescence of the abdomen has greatly subsided. The symptoms are all improving.

May 1*st.*—The swellings diminishing; statim abstrah. sanguis ad ℥viij. Let her take a glass of port wine and bark every day, and use moderate exercise in the open air.

May 8*th.*—Swelling entirely gone. Patient rapidly convalescent. Statim repet. venæsect. ad ℥viij.

This last bleeding was made as a substitute for the cata-

menia, which ought to have appeared last week. The bark and wine and laxitives were ordered to be continued.

I consider this case very illustrative of the good effects of bleeding in abdominal dropsy of women, connected with impaired uterine action. I attribute the cure exclusively to the venesection, and shall in future employ it in dropsies of the ovarium, which have hitherto baffled medical assistance. In this case theory and practice seem to correspond. By bleeding, the vessels of the intestines are excited to increase their action to supply the deficiency from the loss of blood. An increased proportion of aliment is converted into blood, during which time the exhalation of water is arrested. Before this first effect is lost, a second bleeding renews and increases it, which is continued by the subsequent bleedings. The fluid forming the dropsical collection is not reinforced, and that power in the system which keeps up a constant circulating change in the fluids, removes what has been deposited, while the source of supply is converted into blood. But whatever may be the theory, which is of minor importance, the fact is in my mind clearly established, and I shall give the bleeding all the credit until subsequent experience invalidates it.

ART. X. *Case of Amputation at the Elbow-joint successfully performed.* By J. KEARNEY RODGERS, M. D Surgeon to the New-York Hospital and the New-York Eye Infirmary.

THE violent inflammation which often follows wounds of the larger joints, has deterred surgeons from performing amputation through them; and they have rarely attempted it, except in cases where it was impossible to operate nearer the body.

The operations at the hip and shoulder-joint have often been performed, and I think with such success as may well embolden to further attempts. Amputation at the knee-joint has been performed a few times in Germany with success, and once I am informed in this country.

I am not aware that the operation has been attempted at the elbow-joint, since (as M. Brasdor informs us in the Mem. de L'Académie de Chirurgie) it was performed by Ambrose Paré.

The happy result of the following case induces me to lay it before the profession, with the hope that others may be induced to practise it in appropriate instances.

A stout healthy negro, aged about 35 years, was admitted under my care into the New-York Hospital, November 5th, 1827.

A few hours before his admission, he had received a wound in the right arm, by a musket discharged by a boy who stood not more than twenty feet from him. The radius and ulna were very much shattered, and the hand hung by a few shreds of skin and tendons. He had recovered from the shock so as to give an account of the manner in which he had received the wound. There was still, however, great insensibility to pain.

Having ascertained that there was not enough of the integuments to cover the ends of the radius and ulna, I proceeded to amputate at the elbow-joint. A flap was made of the integuments and muscles of the anterior part of the forearm, by an incision (made by the common amputating knife) reaching from the head of the radius to the inner condyle of the os brachii. Another flap was made from the posterior part, of integuments only. These were dissected up; the scalpel was carried between the head of the radius and os brachii, and then on the anterior part of the joint, between the coronoid process of the ulna and os brachii. The internal lateral liga nent was divided, and the knife readily separated the posterior and upper part of the ulna from its connexions. The vessels were readily tied, and the edges of the wound brought into contact and dressed. The stump was not examined until the expiration of two days, when it had completely united, except in the course of the ligatures.* In

* There was no fever following the operation, nor any more inconvenience than is consequent to ordinary amputations.

about three weeks the ligatures came away, and the stump was perfectly sound.

I have several times seen this man since he has returned to labour, and am convinced that the stump is far more useful to him than if the arm had been amputated at the usual place.

ART. XI. *Remarks on Sudden Death, contained in a letter to the Editors of the New-York Medical and Physical Journal.* By Dr. XAVIER TESSIER, of Quebec.

CASES of sudden death have lately become so frequent, that I was led, sometime since, to turn my attention to this subject, which appeared to me to have been left far behind the rapid improvements made in all the various departments of medical science. I therefore inserted an article to that effect, in the Quebec Medical Journal, Vol. I. in which I offered my opinions, in the hope to draw the attention of the profession to what I considered somewhat neglected, and requested further inquiries. But, after the lapse of two years, I cannot discover that it has been more attended to than before; which I would rather ascribe to the circulation of that Journal being almost limited to Canada, than to the circumstance of its being written in French, the language of my country, and one which, from its scientific usefulness, has become an essential part of a liberal education on this continent, and among all the enlighten d nations of Europe.

It is not a little remarkable, that out of the myriads of volumes and pamphlets, with which every minute department of medicine abounds, not one treatise should have ever been attempted, or perhaps thought of, on a subject replete with such interesting consequences, and in which the comforts and happiness of mankind are so deeply involved. Its importance to the science of medical jurisprudence seems also to have been greatly overlooked; owing probably, more to the obscurity and difficulty of the subject, than to a want of conviction of

its usefulness, abstractedly considered, in a variety of legal cases.

Immense labours are daily bestowed in researches on the means of soothing the ordinary infirmities incident to our nature; but no attention appears to be given towards averting one, which is the most dreadful of all calamities. I do not pretend to say, that the causes which bring on a sudden death are totally unknown to the profession; but, as they are to be referred to diseases, which, although known to exist in the human body, are, however, so obscure and delusive as to escape the notice of the generality of medical men, their existence is seldom suspected, without the appearance of that train of symptoms by which they are expected to manifest themselves.

Even some of the diseases to which I am about to allude, have not yet been considered a more frequent cause of sudden death, than all others, from which they appear only to differ by their rapid and speedy, but gradual termination. Hence, when a person dies suddenly, without the apparent existence of some previous disorder of a nature adequate to that effect, the physician is at a loss how to account for that event, before he has examined and discovered it by a careful dissection. But, without referring to the prejudices which so often frustrate our expectations of a post-mortem examination, it is of the utmost importance to ascertain the existence of that cause in the living subject; and the means of averting its dreadful consequence will then immediately present themselves, even to an ordinary skilful and intelligent practitioner. For, it may perhaps be said with propriety, in the present state of our science, that a disease once well ascertained and understood, is already half cured. I may also assert here, that my inquiries on this subject have led me to the pleasing conviction, that medicine possesses in a great measure the means of checking their sudden termination, although their entire removal may yet long baffle all our attempts.

I have been induced to avail myself of the opportunity afforded by the recent event which has deprived this state of its Chief Magistrate, in order to submit my ideas to the test

of further observations. For, whilst all classes unite to deplore the death of Governor Clinton as a great public loss, our profession, not only as a constituent part of the republic of letters, of which that individual was so distinguished a member, but more particularly as guardians of the lives of our fellow-creatures, feel another interest in the nature of that event, unconnected with any of the political feelings which, as a Canadian citizen, I cannot share in a common degree with his fellow-citizens. As I intend, however, to treat this subject more at length in the French Journal which I am about to publish here, as a new series of the Quebec Medical Journal, I will, for the present, confine myself to recapitulate my ideas on the causes of sudden death, contained in the article referred to, and the course of inquiry which I have adopted in order to arrive at the desired conclusion.

It is now universally allowed, I believe, since the writings of Bichat, that death is the immediate consequence of the cessation of the functions of one of the following organs: the lungs, the brain, and the heart; whilst no other can produce the same result but by means of one of them, and consequently to the whole, through their natural dependence on each other. We know of no disease of the lungs which can bring on a sudden dissolution, without a previous manifestation of symptoms by which it is always strongly marked, and which can ever assume an alarming character without passing through various stages. It is, of course, needless to say that none of my remarks are to be extended to any case of death by violence, poison, or other external causes.

The only condition of the brain which may cause a speedy death, is an accumulation of fluid, bloody or watery, in any part within the skull, occasioning a compression of the brain. This sort of accident constituting apoplexy, and a consequent palsy, particularly in old people, has never been known to produce instantaneous death, which may, indeed, take place in a very few hours, but not without being preceded by the peculiar characteristic symptoms of apoplexy. Such was lately the case with Mr. Emmet. We even know that it is sometimes in our power to rescue the patient from the fatal ef-

fects of that compression, by removing or relieving it. I may therefore conclude that the heart alone is the seat of those affections which occasion a sudden death.

This singular hollow muscle has frequently been noticed as the seat of several diseases almost altogether unknown to the ancients; and, strange as it may appear, not much better understood by physicians at the present day, than at the time of Morgagni. Buonaparte's private physician, Baron Corvisart, is the first and yet the only writer who has ever been able to trace the nature of the various disorders with which the heart is liable to be affected, and his description of their character is such, that they ought to rank in our nosological tablets. I am not aware that any disease of the heart has since been observed, which he has not accurately described. The most common of them is called an aneurism of the heart, or a dilatation of its parietes, accompanied with an increase or a diminution of their thickness. This affection generally runs through its course by degrees, and will seldom escape the attentive observer. But, as it is a circumstance almost peculiar to all the diseases of the heart, that the appetite is not impaired, nor the vigour of either body or mind sensibly diminished, nor the functions of the bowels or other organs at all deranged, except that of respiration, which is more or less disturbed according to the nature and extent of the complaint, it not unfrequently happens that the physician will mistake the case for asthma, particularly if the corpulence of the patient be such as to leave some reasonable doubt of at least the possibility of a mechanical impediment to respiration. Hence the disease will arrive at its height, and the patient be carried off suddenly, before the real nature of his disorder is at all suspected.

It is a remarkable fact, and one which we ought constantly to bear in mind, in relation to diseases of the heart, that a complaint, sometimes occasioning but little uneasiness, should be found adequate to a cause of death: that, whilst we are so involuntarily led to calculate the degree of danger according to the severity of the symptoms, we should have to witness that danger in others to be, as it were, in an inverse ratio.

Here, there seems to be but one step between a slight indisposition and an inevitable death. How important is it then to be acquainted with the nature of these complaints, and above all, with their dangerous consequences.

But an aneurism is not the only disease of the heart which can bring on such fatal results, and I am disposed to think it is perhaps the least common cause; for there are others, but particularly those degenerescences of the whole viscus, those excrescences or ossified processes so often found in its substance, in its cavity, or about some of its orifices, existing independently of any constitutional affection or vitiated habit, but, on the contrary, attendant on the most healthy subject; and which are therefore more likely to escape the notice of the practitioner.

The existence of those affections will be detected by a careful attention to the state of the circulation, particularly to the pulsation of the heart, and of the arteries at the wrist and and at the axilla. I will not enter into the detail of those symptoms; they are, or ought to be well known to every practitioner, and easily deduced from the physiology and mechanism of the circulation of the blood; but I would particularly recommend the able description given of them by Corvisart, which will be found of great service to those who may feel disposed to devote their attention to this subject. I may perhaps also observe here, that my own observation does not allow me to place much confidence in the sound of the chest by *percussion*, which, according to that writer, is in most of those complaints, what he calls *un son mât*, so forcibly expressed in the following words, *tanquam percussi femoris.*

One particular circumstance is to be attended to with respect to their treatment, which is, that as their progress, if not their origin itself, is the natural and unavoidable consequence of the performance of the functions of the heart itself, even in the state of health, the least possible deviation from the strict regimen necessary to be pursued, will frequently be found sufficient to counteract the most powerful means which medicine possesses of checking, if not of curing the disease. For example, in an aneurism of the heart, which is by far the

most common of them all, those distressing palpitations which occur by *fits*, are to be considered as the natural efforts of that organ to overcome the resistance offered by the mass of blood, which has then become disproportionate to its *diametrical* capacity in the *active* aneurism, or its *physical* and contractile power in the *passive*. Perfect rest of both body and mind, but particularly of the latter, being of the first consequence in these cases, the least degree of excitement, by accelerating the circulation, will bring on those palpitations whereby the disease is increased; and the mischief occasioned by one of those fits is perhaps greater than the relief which can be obtained from the best treatment for several weeks.

Those fits are to be met with in almost all diseases of the heart, and it is generally in one of them that the patient is suddenly carried off. This fact is strikingly exemplified in the case of the illustrious deceased to whom I have before alluded, when, to use the words of his family physician, he suddenly appeared "distressed for breath." I would venture to say that, previous to this struggle for breath, the heart had already ceased beating, in consequence of which the lungs were making efforts to relieve themselves of the blood accumulating in them from the want of its natural outlet through the heart. This fact may be observed in ordinary occurrences in life; for, when in consequence of mental excitement, the blood, leaving the surface of the body, is accumulated in the interior organs, a deep inspiration, *a sigh*, is the means which nature immediately resorts to, in order to afford a free circulation to the blood, by thus increasing the capacity of the vessels. In fits of anger, joy, or terror, if the mass of blood accumulated in the heart is such as to offer a mechanical resistance which it cannot overcome by its contractile power, its motion ceases, and after a few fruitless inspirations, the person drops down dead. Such is the case with those who die in a fit of anger, joy, terror, or grief. Bodily pain has even been known to produce the same result; hence the propriety in persons undergoing painful operations of relieving themselves by their groaning, sighs, crying out, and giving free utterance to their sufferings.

I must confess that our means of affording relief in the diseases I have mentioned, are yet very limited; but, it is possible that, by a more careful attention than has heretofore been given to the subject, we may improve them, or perhaps discover others more effectual. The most powerful which we know of at this day are blood-letting and diet carried to a great extent, but they are evidently inadequate to a cure without some more direct means. Diseases of the heart, however, are more commonly met with in elderly people, and we know that frequent bleedings will dispose them to dropsical affections, without curing the former affections; but, if we can, by that means, avert their abrupt termination, it certainly is the least pledge we can produce to suffering humanity of the utility of our profession, when that deplorable benefit is to be purchased at the expense of a protracted but not less incurable disease.

REVIEW.

ART I. *A Synopsis of the Diseases of the Eye, and their Treatment; to which are prefixed a short Anatomical Description, and a Sketch of the Physiology of that Organ* By BENJAMIN TRAVERS, F.R.S. Surgeon to St. Thomas's Hospital. With Notes and Additions by EDWARD DELAFIELD, M. D. Surgeon to the New-York Eye Infirmary, and Lecturer on Diseases of the Eye. First American from the 3d London edition. New-York, 1825. 8vo. pp. 474.

BY persons more distinguished for their wit, than for either their judgment or candour, the practice so prevalent in this country, of republishing valuable foreign works, with the addition of notes by some American editor, has been made the subject of severe censure and reproach. It has been urged, that while it held out to the editor in this country a cheap and ready way of gaining a distinction which probably he did not merit, it has had a tendency to check the spirit of original authorship, and thus discourage among our own countrymen those labours which would be the most honourable to the general reputation of the profession. We confess that our opinions on this subject have been, and still are entirely different. We have always looked upon the republication of standard foreign works in this country, as a substantial and solid benefit conferred upon the cause of medical science, and we have always considered those who have been instrumental in rendering us this benefit, (whatever may have been the motive,) as entitled to the commendation and gratitude of the votaries

of our art. Indeed, we do not know of any one thing which has aided so materially as this in the rapid and astonishing advances which medicine has certainly made amongst us within a very few years past. As far as our observation has extended, it has rather encouraged than repressed the ambition of our original writers; and, even if it had not, we are not sure that the public or the profession would have been materially the sufferers. The extreme sensitiveness in relation to every thing American, which has been so assiduously cherished, has induced us too often to look with a degree of kindness and partiality upon productions which, under other circumstances, would have drawn down upon their authors the lash of severe but merited criticism. Under the influence of this feeling, a general immunity seems to be enjoyed by our writers, and the only contest among our leading journalists seems to be, who shall sing the loudest hosannas to the triumphs of American genius. As might be expected under these circumstances, empiricism has grown bold among us, and the plunderings of encyclopedias, dictionaries, libraries of knowledge, &c. &c. are sure to be abundantly lauded, provided they are only presented under the imposing title of an original production. It is the same general feeling which has given such scope to those small wares of medical literature, denominated *text books*, with which we are at present inundated in this country, and which, for the most part, furnish no other evidence of the capacity of the author, or rather *compiler*, than that he can read and write. Now all this, we humbly conceive, is not very likely to aid substantially amongst us the cause of medical science; and it is high time that some check should be given to a system which is bolstering up the weak, the vain, and the superficial, and which, in an especial manner, is operating to the detriment of the younger members of the profession to a most alarming extent. If our Journalists had independence enough to do their duty, the evil would not long be complained of; but, unfortunately, those of them who make the greatest pretensions, and who undertake to dictate laws to the medical public, are themselves too frequently obnoxious to the very same charge. In the mean time, we do not know of any thing so likely to foster a

sound and wholesome taste—to encourage deep and solid learning—and to elevate the standard of medical judgment in this country, as to make our brethren here extensively familiar with the rich fruits of foreign thought and learning; and if some name already valued and revered among us, can be brought to aid in extending the circulation of these works, it is only still further enhancing the benefit. Under this view, we have always thought that Dr. Rush, in causing to be republished in this country under the sanction of his popular name and extended influence, such works as those of Sydenham, Pringle, Hillary, Cleghorn and others, did more for the real improvement of the profession, than all his successors put together have done by their boasted "systems" and compilations.

Such being our views, we cannot but look with a favourable eye upon the republication of the work of Mr. Travers. In Great Britain and on the continent, it has long since established a high reputation, and the American edition by Dr. Delafield is greatly improved by the judicious and valuable notes which he has added.

As the original work of Mr. Travers is so generally known, our only object is to notice some of the additions by the American editor, by way of recommending the present edition to the more general perusal of our professional brethren.

Strabismus, with Double Vision.—Dr. Delafield relates two cases of this affection somewhat peculiar. In the first, the double vision continued for a much greater length of time than is usually known to be the case. In general, the double vision gradually subsides, and the squinting eye becomes accommodated to the new direction of its axis. In this case it remained permanent for five years.

"J. G. was attacked six years ago, with remittent fever of extremely tedious and obstinate character, leaving him in a state of debility from which he very slowly recovered. During his convalescence, the right eye began to be affected with strabismus and double vision, which increased

until it was impossible for him to look with both eyes without producing pain in the head and confusion of thought. It distressed the patient exceedingly, and kept him in a nervous, irritable condition, which impaired his health, and rendered life a burden to him. Four years after the accession of the disease, he applied to the New-York Eye Infirmary, with a request that the affected eye might be destroyed, in order to put an end to his distress. It was then ascertained that he saw perfectly well with either eye singly, when the other was covered, but the double vision was complete when both were used."

"Another case of double vision has since occurred to me, not unworthy of record. A man received a violent kick upon the cheek, just below the right eye, from a maniac, whom he was endeavouring to secure. The immediate consequence was double vision, but in a vertical instead of an horizontal direction. Every object at which the patient looked appeared double, but the image of one *above* the other. On examination, a firm swelling, caused by extravasated blood, was felt below the eye, deep in the orbit, and it was evident that the organ was somewhat pushed up out of its natural direction. On placing a finger beneath the other eye and pressing into the orbit, the double vision was immediately corrected, by the axis of the sound eye being made to correspond with that of the injured one, while the symptom returned as soon as the finger was removed. The extravasated blood was gradually absorbed, and the patient after a few weeks regained correct vision." pp. 177—9.

Disorganization of the Vitreous Humor, with tremulous Iris.—Under this head we are furnished with the following observations of the editor.

"Disorganization of the vitreous humor, with tremulous iris, although coming on spontaneously, is not necessarily productive of blindness. A young lady, from Vermont, arrived in this city in the early part of last summer, to obtain advice in such a case. The iris was tremulous, the eyeball soft, and readily yielding to pressure, and the lens, having lost its support in the vitreous humor, had fallen through the pupil into the anterior chamber. No severe inflammation accompanied this unnatural situation of the lens, but it was productive of occasional pain, and almost completely destroyed vision by lying in front of the pupil. The lens was still transparent, except at its edges, and although it had remained in this situation several months, was very little diminished by absorption. The other eye having been lost in childhood, from accident, the patient was thus deprived of all useful vision. A section was made in the cornea, through which it was intended to extract the dislocated lens, but immediately upon withdrawing the knife, it passed back through the pupil, and fell below the axis of vision into the bottom of the eye. No inflammation followed the operation, and the patient recovered in a few days. The sight was rendered so

perfect, that, with a proper glass, she could read and sew as well as any patient who had undergone the operation for cataract.

"In a similar case the result was different.

"W. D. ———, a shoemaker of this city, wounded his left eye with an awl, about sixteen years before he applied at the Infirmary. The instrument pierced the cornea and lens, which, in consequence, became opaque, and the eye lost its power of vision. It gave him little or no inconvenience, until the day before he came to the Infirmary, when on rising in the morning, he found the eye beginning to be inflamed, with gradually increasing pain, and the lens lying in the anterior chamber. On examining it, in addition to these symptoms, the iris was observed to be tremulous, and the whole organ preternaturally soft. Sight was entirely extinct; the eye not being sensible in the slightest degree to light. It was evident here, that in consequence of the accident, a process of disorganization had been set up in the vitreous humor, which eventually depriving the lens of its support, had allowed it to escape into the anterior chamber. To prevent the dangerous inflammation likely to follow this state of the parts, the lens was extracted through a section of the cornea. The wound healed well, and the eye regained its healthy appearance, but of course, remained perfectly blind.

"Our author remarks, that a tremulous state of the iris may follow the rough performance of the operations of couching, and that by absorption. It is equally true that it may sometimes follow them when performed in the most skilful manner, and be productive of no ill consequences to the patient. In such cases, the tremulous state of the iris is often not permanent, but subsides after the lapse of a few weeks; rather disproving our author's position that it is "*always* connected with a relative disproportion of the vitreous humor," for such a condition of the parts must be unchangeable, and its effect in producing tremor of the iris permanent." pp. 208, 9.

Glaucoma.—This is a rare affection, and is not noticed by Mr. Travers. The deficiency is supplied by Dr. Delafield. This disease consists in a gradual conversion of the vitreous humour into a yellowish green substance, with a partial or complete abolition of vision. By the Germans, this disease is considered as always associated with a gouty diathesis—a position exceedingly questionable. Dr. D. has met with several cases of it, in which no evidences of this diathesis were present.

"It appears to be more consistent with sound pathology, to consider the disease as essentially an inflammation of the vitreous humor, and all the morbid changes which occur, as dependent upon this inflammation for their cause.

"When the disease commences, the patient suffers pain across the eyebrows, sometimes slight, at others excessively severe, and accompanied with a sense of rending and extreme distension. If we now examine the eye, we perceive that there is a change of colour, not immediately behind the iris, as in cataract, but deep-seated in the globe. This, perhaps, is not at first easily distinguished, but in the progress of the disease becomes extremely manifest. By dilating the pupil by means of belladonna or stramonium, and exposing the eye to a bright light, we can see the change of colour very early in the disease. The patient very soon begins to be troubled with specks and motes floating before the eyes, and finds his vision beginning to be seriously impaired. As the colour of the vitreous humor deepens, the sight is more and more injured, although not always in an equally increasing ratio. The pupil gradually becomes more and more sluggish in its motions, until eventually it remains fixed. After a time the lens frequently undergoes the same change in appearance, and assumes also a greenish colour; *cataracta glaucomatosa*, as it is called. It increases also in bulk, fills the posterior chamber, presses upon the iris, and at last pushing itself into the dilated pupil, partly enters the anterior chamber. Eventually the pain subsides; the eyeball begins to diminish in size, becomes atrophic, and sinking into the orbit, the lids entirely close over it.

"When glaucoma has commenced in one eye, it generally, if not always, extends also to the other, if not arrested by remedies; and we will often see the disease in its different stages in the two eyes.

"In its fully formed stage, glaucoma is absolutely incurable; but it may often be checked in its progress: and when only one eye is yet affected, it may sometimes be prevented extending to the other. We cannot restore the transparency of the vitreous humor, but may occasionally arrest the disease, and even improve the impaired vision.

"*Treatment.*—This must be purely antiphlogistic, and in general, similar to what is proper for inflammation of the deep-seated textures of the eye. Local blood-letting, by means of cupping or leeches, frequently repeated, purging, and counter-irritation, perseveringly persisted in, are the proper remedies in the first stages of the disease; together with regulated diet, and rest both of the organ, and the body generally. This treatment may be advantageously followed or accompanied by the moderate use of mercury, in its milder forms, such as Plummer's or the blue pill. Either of these may be used until they slightly affect the system, but not too freely or too rapidly; as the attendant state of the constitution is generally such as not to bear the remedy in large quantities. Under the use of this all-powerful medicine, we are assured, that after the change of colour had evidently taken place, the transparency of the eye has been completely restored, and the patient regained perfect vision." pp. 215—17.

Congenital Cataract.—Under this head Mr. Travers remarks that he "has heard of the complete spontaneous ab-

sorption of the congenital cataract at an early age; and, although the eyes had a constant tremulous motion, the person was in after-life enabled to follow useful occupations. I have never seen such a case, but I refer to an instance which is well authenticated." A well marked case of this kind is supplied by Dr. Delafield.

"A gentleman from Charleston, S. C. brought his child, a little girl 7 years old, to this city, for advice, in consequence of the imperfection of her sight. He described the pupils as having had a white appearance a few days after birth, which after several months, began gradually to diminish, until, before the child was two years old, no trace of it could be seen. In the meantime the child's sight had gradually improved. When brought to me, she could see sufficiently for all the ordinary purposes of life, but not so accurately as to learn either to read or sew. The eyes had the tremulous motion referred to by our author. The pupils looked perfectly clear, and were of a jet black. The case had been repeatedly pronounced amaurosis, and if merely examined independently of its history, might be readily mistaken for it. The history of the case, however, proved decidedly that the child had congenital cataract, which had been gradually absorbed, and thus the power of vision had been gained. Extract of stramonium was applied, and the pupils widely dilated. All doubt was now removed: slight spots of opacity, of a silvery brightness, but very small, and with considerable spaces between them, were seen scattered over the capsules of each lens, and sufficiently accounted for the imperfection of the sight. The parents of the child would not consent to an operation at the time, and the result of the case has not been ascertained." p. 244.

Hereditary Cataract.—A very remarkable instance of this is recorded by the editor.

"A girl, of sixteen years of age, with congenital cataracts, is now at the Infirmary, and has been operated upon once by my colleague, Dr. Rodgers. Her grandfather, father, and two uncles, with a number of her brothers and sisters, and cousins, amounting altogether to twenty-one, are more or less affected with some degree of congenital opacity of the lens. In several of them it is so slight as not to prevent reading, but in all, the involuntary motion of the eye, so common in congenital cataract, is present." p. 226.

Peculiar protrusion of the Eye-ball.—On this subject we are furnished with the following interesting note.

"There is a variety of disease, accompanied by protrusion of the eye-ball, different from any of those mentioned by Mr. Travers, and depend-

ing upon a different cause. In this case, we observe a gradually increasing and uniform protrusion of the globe going on for a certain length of time, without any change in the texture of the eye, or the appearance of any tumor at its side, but apparently depending upon a simple increase in volume of the cellular and adipose substance at the bottom of the orbit.— It occurs only, as I have remarked, in scrophulous children, whose general health is much impaired. My attention was first called to this affection by a paper of M. Louis in the Memoirs of the French Royal Academy of Surgery, Vol. V. p. 214.

"He there quotes a case from Theophilus Bonetus, of a child of three years of age, whose right eye was almost entirely protruded from its socket. The child was evidently scrophulous, and a tense and swelled abdomen showed the extent of the strumous diathesis. The patient, after having been purged, was for a month put upon the use of tincture of rhubarb.— The eye gradually sunk in the orbit, in proportion as the abdomen decreased in size and tension; and when a healthy state of the abdominal viscera was re-established, the organ had regained its natural situation without any other treatment.

"No modern author, that I have consulted, notices this curious disease; but I have met with more than one instance of it. One case closely resembled that just quoted. It occurred in a negro child of about six years of age, in whom the strumous diathesis was strongly marked. Both eyes were considerably protruded from their orbits. A mode of treatment similar to that adopted by Bonetus, was pursued; and by a long course of purgatives, with other remedies calculated to improve the general health, I eventually succeeded in curing the disease." pp. 245, 6.

Peculiar Species of Ulceration of the Eyelids.

"The eyelids are subject to a peculiar species of ulceration, apparently of a syphilitic character, strongly resembling chancres in appearance, yet probably a symptom of secondary syphilis. These ulcers are very foul, of a white colour, deeply excavated, with hard edges, and having no disposition to granulate. They commence on the ciliary margin, and extend to both the internal and external surfaces of the lid. I have seen them involve the puncta; and in one instance, ulcers of precisely the same character were situated on the cheek and ala of the nose.

"Whatever may be our opinion of the nature and origin of these ulcers, whether syphilitic or not, there is no doubt as to the appropriate remedy. They always require and readily yield under the use of mercury. Any of the ordinary forms of the remedy will generally succeed, but the most appropriate is the corrosive muriate, in doses of a quarter of a grain three times a day; the patient at the same time making free use of decoct. sarsaparillæ. The ulcers may be dressed with the ung. nitric. oxyd. hydr.— Under this treatment, they soon assume a healthy aspect and granulating

surface. The result is generally much more favourable than was anticipated; for little or no deformity is left after healing the ulcers of the lids, which appeared to have destroyed a considerable portion of the ciliary margin.

"Almost all the cases of this disease which have occurred at the New-York Eye Infirmary have been in females, and the greater proportion of these negroes." pp. 254, 5.

The foregoing notes are added to the Section of Mr. Travers' work which treats of the "*Pathology*" of the membranes of the Eye.—Under the section which is devoted to *Treatment*, we have an additional number of valuable notes.

Scarifications and Leeches in Simple Conjunctival Inflammation.—On these points Dr. D. makes some judicious observations, in the correctness of which we fully concur.

"Little good is to be derived from scarifications of the conjunctiva, in the mode in which that operation is very commonly performed. If the scarification be not made exactly in the proper situation, so little blood is obtained as to be of no advantage to the patient. On everting the lower eyelid, we may observe about a line within the margin of the lid, a narrow strip of the membrane, exactly parallel with the tarsal border, more vascular than the rest; the vascularity still more conspicuous if inflammation be present. A single stroke of a sharp scalpel drawn along this line, will furnish a large quantity of blood, if the lid be kept everted as long as the bleeding continues. If the scarification be made even a single line nearer the globe of the eye, little or no blood is obtained. The situation meant to be designated is that in which the conjunctiva is firmly adherent to the tarsus; as opposed to the loose portion of it passing from this part to the eyeball.

"In this country, scarifications of the conjunctiva are so constantly practised in acute inflammation of that membrane, that I cannot avoid bearing my testimony against it. In the early part of my practice I extensively used it, and must frankly acknowledge, often did much harm by it. The authority of Mr. Saunders, however, sanctioned by the remark on the subject by our author, ought to be decisive. 'Scarifications,' observes Mr Saunders, as far as I have seen them employed in the active state of the inflammation, are certainly injurious; they have manifestly aggravated the symptoms; and I conceive it will appear highly improbable that the infliction of mechanical injury on a part already actively inflamed, can be advantageous—a similar practice does not obtain in surgery on other parts of the body. When the activity of the inflammation is gone, the vessels of the conjunctiva that have been engaged in the process, re-

main preternaturally enlarged. At such time, the division of a great number of them might cause the whole series to contract, and thus accelerate the diminution of the vascularity, and the adhesive inflammation might only produce a degree of reaction, which would then be immaterial. But the condition of the part is widely different during the progressive state of inflammation. At this stage, the wounds of the lancet are only additional stimuli co-operating with the disease, and consequently exasperating the state of the eye.'

"Of the same character as a remedy, as scarifications, we may consider the application of leeches to the palpebral conjunctiva; a practice attributed in England to Mr. Crampton, but long ago recommended in France, by Demours. Mr. Crampton insists upon the utility of the remedy in every stage and species of inflammation which attacks the eye. During the first stages of acute conjunctival inflammation, I have seen it do much mischief, and therefore would think it safer to limit its application to cases of chronic ophthalmia, or at least to those in which the severity of the symptoms had first been reduced by other means. With this caution, leeches, thus applied, constitute a safe and excellent remedy against ophthalmic inflammation.

"The mode of applying the leech is sufficiently simple. Having selected one rather less than the medium size, the surgeon everts the lower eyelid with the fore finger of his left hand, and places the animal in such a manner as to fix itself upon the conjunctiva lining the lid, being careful to prevent its attaching itself either to the eyeball or the tarsal edge. Where the leech fixes itself to the eyeball, it sometimes produces severe inflammation, although no permanent injury is the consequence: on the edge of the lid, it gives great pain, and occasionally several days elapse before the irritation produced by it subsides." pp. 267—69.

Local Applications, &c.—The following note we quote entire, as containing most important advice.

"To avoid doing our patient injury, is certainly of as much importance as to do him good. I shall therefore take occasion, whenever necessary, to warn the student of medicine and young practitioner against the use of remedies, which I know to be common in our country, where they are evidently prejudicial. Of these, one of the worst, in inflammation of the conjunctiva, either simple or purulent, is warm poultices applied to the eyes. I have repeatedly seen young infants brought to the New-York Eye Infirmary, with the corneæ of both eyes sloughed, and the organs entirely ruined, after having been kept under poultices even as long as six weeks without intermission, and the practitioner, perhaps, has not, during that whole period, once examined the patient's eyes. I have now under my care a gentleman, whose eyes were kept constantly under poultices more than a month, where the corneæ are both completely opaque and vascular.

and the lids loaded with granulations. I need not say that he is totally blind, and many months will elapse before he recovers his sight. Such cases are by no means uncommon, and their result is a sufficient proof of the impropriety of the practice.

"There is also another common practice which is equally prejudicial; the unnecessary confinement of patients suffering under ophthalmic inflammation, in dark chambers. A high degree of morbid sensibility to light is thus induced, which does not belong to the disease. Inflammation of the conjunctiva, when not modified by struma, is attended with very little intolerance, and hardly even requires the use of a shade; confinement in the dark is never necessary. No better guide can be found than the patient's own feelings: and he should be kept in just that quantity of light which is pleasant and agreeable to him. By an opposite practice, patients are often thus confined even months, until they cannot bear the slightest ray of light in their apartments; and long after the inflammation has subsided, the eyes are still useless from their want of power to bear its admission.

"When the inflammation is more deeply seated, and the superficial vessels of the sclerotic become enlarged, shoot over the margin of the cornea, and involve that membrane in the disease; then, indeed, intolerance of light becomes a marked and distressing symptom; and it is necessary so far to diminish the light of the patient's chamber as to make him comfortable. But even in this case, absolute darkness is prejudicial. A patient deprived of all light in his room, suffers acute and distressing pain at the opening of a door, or any other unavoidable admission of light; whereas if the room be only partially obscured, he suffers little inconvenience from any temporary admission of light.

"Observations so minute as these may perhaps appear trivial; but they are of so much consequence to the comfort of our patients, that they cannot be deemed useless." pp. 272, 3.

Granular Ophthalmia of the Eyelids.—This disease, accompanied with opaque cornea, is extremely common in every part of the State of New-York, but more particularly in the northern counties. It is a consequence of purulent ophthalmia, and its continuance is a very common cause of permanent blindness.

"When such cases present themselves, they are always accompanied with more or less of inflammation. Our first object must be the removal of this inflammation, and before this is effected, all operations are improper. For this purpose, the usual means in common use are sufficient, cupping or leeches, keeping the bowels open by proper medicines, regulating the diet, and removing all sources of irritation. Counter-irritation is, how-

ever, our most efficient agent in fulfilling this indication, and should be kept up during the whole course of the treatment. Blisters behind the ears, kept open by ung. sabin. or ung. canthar. may be employed; or still more conveniently, the tartar emetic ointment may be applied to the same situation, or to the nape of the neck. In the recent state of the disease, a due perseverance in these means will often be sufficient to subdue it; and, in all cases, they must be continued as long as inflammation is present.

"If they do not succeed, it becomes necessary to use means for the direct removal of the granulated surface, and the restoration of the conjunctiva to a healthy condition. For this purpose, in mild cases, we may succeed merely by the use of astringent applications to the granular surface; and of these, one of the mildest and most efficacious is the liq. plumb. acet. undiluted, dropped into the eye once or twice a day, or smeared over the diseased surface with a camel's hair pencil. Other astringents are useful with the same view, such as solutions of alum and of nitrate of silver; but neither of them is so efficacious as the liq. plumbi. The ung. hydr. nitrat., diluted with three or four parts of lard, may at the same time be applied to the edges of the lids every day, to prevent their agglutination, and act as a beneficial stimulant to the parts. Counter-irritation should still be kept up either by means of ung. tartr. antim. setons, or issues.

"If the case be more severe, or these means fail, still more active measures must be resorted to. If the granular bodies be large and hard, they should be removed by the knife, as directed by our author, and the operation should be repeated if they grow again, until they are removed as far as possible. As the whole of the disease, however, can hardly be eradicated in this manner, escharotic substances are employed to complete their removal; and of these the sulph. cupri arg. nitrat., and the mineral acids are the best; the first preferable to the other two. In applying them, the lids must be everted, and the sulph. cupri be used; it should be lightly rubbed over the granulated surface; if the arg. nitrat., the projecting points may be slightly touched with it. The part should then be freely washed off with water to prevent the application of the caustic to the eyeball. When the acids are employed, they should be diluted with three parts of water, and applied with a camel's hail pencil. Sometimes the use of any of these means excites active inflammation in the eye; and then all irritating applications must be avoided, and antiphlogistic and soothing treatment employed.

"The use of the knife or scissors to remove the granulations is very rarely necessary, and I believe falling much into disuse in Europe. The sulph. cupri is a better remedy, and generally adequate to the object in view, if perseveringly employed. It may be applied every other day with perfect safety.

"Having succeeded in removing the diseased state of the palpebral conjunctiva, the vascularity and opacity of the cornea generally subside, without the use of any direct remedies for their cure. They are excited

and kept up by the irritation of the granular lids, and disappear with their cause. They are removed more rapidly, however, by still persisting in the use of the ung. tartr. antim. The circular incisions around the cornea recommended by Mr. Travers will sometimes quicken the process, but should never be used while any inflammation is present, nor until the palpebral lining is restored to a healthy condition. When employed under these circumstances, they sometimes excite severe inflammation.

"This last remedy the division of the enlarged vessels which overshoot the cornea, is so frequently employed in this country, that it is necessary to make some further remarks with regard to it. Another modification of the same remedy, as recommended by Mr. Ware, the excision of a portion of the enlarged vessels is also much in use among us, and when improperly made use of, is still worse than the first; indeed, if either be necessary, a simple division of the vessels is adequate to every purpose which the remedy is capable of effecting, and is liable to do much less mischief. Mr. Ware's method, therefore, is never necessary; and the other very rarely. Our object should rather be to remove the inflammation which enlarges the vessels, than to diminish their diameters by any operation on themselves. An opposite practice is very often productive of serious injury to the organ, by increasing the inflammation and aggravating all the symptoms. The common error is, to divide the vessels while inflammation still subsists; very often it is done in its very commencement. In severe acute inflammation of the cornea, in ulcers of that membrane with red vessels running to them, and even in common pustular inflammation of the conjunctiva, this operation is very commonly performed, and in every such case, if it does any thing, it does harm. No arguments are necessary to prove the impropriety of the practice in such cases; it is repugnant to the very first principles of surgery, and its employment cannot be justified on the slightest ground. Were I not a daily witness of the mischief arising from the improper use of this remedy, I could not have supposed that what is so evidently wrong, should so often be done. But with this evidence constantly before me, I feel it absolutely necessary to caution the student of this branch of surgery against an operation he will often be advised to perform." pp. 297—9.

Conical Cornea.—To show the effect of removing the lens in cases of this kind, the following is an interesting case.

"A young man from Rhode-Island applied at the New-York Eye Infirmary about eighteen months since, with both corneæ conical and a cataract in one eye. His near-sightedness was so extreme, that he could read with great difficulty. The cataract was removed from the one eye, and with much advantage to his vision. He could see without any glass much more distinctly with the eye operated upon, than with the other assisted by a concave glass of any degree.

"This case tends somewhat to prove the propriety of the plan recommended by some surgeons of removing the lens in cases of conical cornea, in order to compensate for the increased refracting power of the cornea. I have had no opportunity, however, of ascertaining the degree of permanency of the improved vision in this case, as the patient immediately returned home, and I have learned nothing from him since." pp. 311, 12.

Artificial Pupil.—On this subject Dr. Delafield has added important and elaborate notes at pages 374 and 432 to 445; but as much of what is contained in these notes has already been published in a previous number of this Journal, (No. 14) we deem it unnecessary to dwell upon them.

In concluding our notice of this work, we cannot in justice omit an allusion to the mechanical execution of it, which is in every respect superior to the generality of medical publications in this country. The plates especially are exquisitely executed, and do the highest credit to the artists employed.

ART. II. *First Report of the Committee of the Philadelphia Medical Society on Quack Medicines.* Read on the 15th December, 1827, and ordered to be published by the Society. Philadelphia, 1828. 8vo. pp. 37.

WE rejoice to perceive that the physicians in Philadelphia are at length aroused to a sense of their duties, and, that following the laudable example of their brethren in this city, have raised their voice against quackery and quack medicines. In no other city of these United States, has empiricism thrived so much, or been encouraged so extensively as in Philadelphia. And lofty as are the pretensions of the medical profession of that city to pre-eminence in science, and whatever relates to the cultivation and improvement of our art, it has been the occasion of great wonder and greater regret, that there should have been found among its most prominent and influential members, individuals, who, forgetting

alike what was due to their own reputation, and to the dignity of their profession, so far from attempting to arrest and abate this evil, actually abetted in its extension and propagation, by publicly sanctioning with their names, the use of one of the most imposing, and necessarily dangerous nostrums, ever palmed off upon public credulity. We can scarcely find terms sufficiently strong, to convey our reprobation of such unprofessional, and we will add, mischievous conduct. For what was the unavoidable effect, of the recommendations issued under the name of physicians high in office, and possessing the confidence of the public as practitioners, but the indiscriminate use of an article, administered for quackish purposes, by a notorious and ignorant quack?

This article, in the hands of a skilful physician, or even under the direction of an intelligent and well educated man, might, no doubt, in certain cases of disease, be frequently productive of benefit. It was not to restrict its use, however, that the recommendations published in a well known pamphlet were intended. They were used, and we have every reason to assert, were intended to be used, as passports to the employment by the public of the proprietor of the article, to the necessary exclusion of the only class of men really capable of deciding upon the propriety of its administration in any one given case. It would have been well too, for the professional reputation of the eminent individuals who thus became the patrons of a notorious nostrum vender, if the reasons which had induced them to descend from the elevated ground marked out for them by the strict principles of medical morality, and to glide in with popular clamour and weakness, were at all defensible, even on the ground of momentary delusion. The benefit of this extenuation, they are, however, deprived of, if we can place reliance on the assertions advanced in the pamphlet before us. Take a single instance. At page four we are informed by the committee, that "Dr. Dewees' experience of this article having been found useful, is limited to four, or at most five cases," whereas his own practice, in which he has prescribed it several times, does not, he

acknowledges, furnish "*a single case of any decided advantage* following its use." October, 26, 1827. The committee add, "Dr. Dewees does not state the evidence on which he gave his certificate to Swaim; but, it is believed, that not even half of the few favourable results now alluded to, had then come under his own personal observation"!!!

We cannot suppress our astonishment, that the committee should pass over such a statement without a remark. It is true, the fact speaks for itself; and friendly feelings towards Dr. D. may have induced them to be silent. But do they not owe a higher debt to the public than can be possibly claimed on the score of personal considerations by any individual, however elevated his station, and imposing his titles? What! furnish a quack with a virtual license, to vend his nostrums indiscriminately, upon one or two trials of his unknown compound? We recollect seeing it frequently asse ted in print, that physicians of the highest merit in other respects, have been expelled from their honourable seats in the profession, for conduct much less unpraiseworthy and dangerous to the public weal than this; and it is with pain we have to add, that other names must be added to that of Dr. Dewees, as equally obnoxious to a rigid but just censure. Dr. Chapman acknowledges having "overrated the value of the Panacea of Swaim, and is in possession of not a few cases, which, *if desired*, are at the committee's service, and eminently calculated to alarm the public upon this subject." It will be perceived that we have underscored the words *if desired*, and our motive must be sufficiently obvious. Can it be possible, that a teacher of medicine, and a respectable physician, after having set his seal of approbation upon the public use of an unknown medicine, shall, after becoming more enlightened upon the qualities of this medicine, and being put in possession of facts, eminently calculated to alarm the public upon this subject, neglect to warn them of their danger —a danger incurred, it is true, on his responsibility in part, but not the less a danger? Did he not owe it to a conscientious sense of duty, if not, to feelings of humanity, to repair a great wrong which he had committed, by undeceiving those

who had been ensnared by the magic of his name, and thereby jeopardised in life and limb? And shall the performance of this imperative obligation, enforced by the dictates of natural, no less than of professional morality, be made dependent on the desires of a committee? We feel conscious that we are excited upon this subject, and we are free to say, that we owe it as a duty to the public to be so. That public has been too long deceived and imposed upon, not to be informed of the danger they incur by encouraging a quack, even when a protege of medical men in power. To strengthen this statement, and give the climax to the exposition of professional weakness, which we have felt humiliated, but bound to make, we will simply extract one sentence further from the same page. "It may be well to remark, that Dr. Parke's certificate in favour of the nostrum, was furnished on the strength of a *single* case"! Can it surprise any rational physician that this same Dr. Parke should now utterly denounce this same medicine, on account of the melancholy result of *two* other cases which have since occurred?

Were there no physicians of repute in this city who lent themselves to the mercenary views of the nostrum vender? We wish we could answer in the negative; but the fact, and the pamphlet to which we have alluded, are against us.

It is the object of this report to collect all the information extant among physicians, in relation to the remedial value of the more prominent specifics now sold in Philadelphia; and, of course, Swaim's Panacea receives the greatest share of attention. The committee pursued their investigations in the following order:

1. The sense in which the physicians, who gave their certificates in favour of the Panacea, intend their evidence to be received, &c.

2. The circumstances connected with the introduction of this nostrum into the practice of the Pennsylvania Hospital, and Philadelphia Alms-house Infirmary, and the extent to which it was used, and the effects attending such use.

3. The nature of the general evidence, received from va-

rious sources, respecting the alleged curative, and positively deleterious, operation of this Panacea.

4. The inference deducible from the above circumstance, and the objections to the use of this, as of every other quack medicine.

The first part of the Report we have anticipated in our introductory remarks.

From the second we extract the following narration :—

"The committee, on application to the resident physician of the Pennsylvania Hospital, and to the apothecary of the Philadelphia Alms-house Infirmary, have obtained the following information respecting the time when Swaim's Panacea was first introduced into the practice of those institutions, during what period it continued to be prescribed, and by whom.

"Dr. Charles Mifflin, resident physician of the hospital, reports, that, as well as he can learn, Dr. Price was the person who first directed it, and who attended as surgeon to the hospital in the years 1822 and 1823, four months in each year. Dr. Parke, who was at that time one of the physicians to the hospital, stated to Dr. Mifflin, that he never heard of the Panacea being used in any case in the practice of the house, except in that of R. Tregomain, already noticed. "No mention of Swaim's Panacea," says Dr. M. "is made in our book of apothecary's expenses for those years; from which I would infer that its use in this hospital was very short, and that what was used had been presented for the sake of an experiment, the success of which is shown by its discontinuance from that day." Dr. M. states his having made inquiries of Drs. Hewson, Otto, and John Rhea Barton, gentlemen attached to the service of the hospital; and was informed by them that they never prescribed it in that institution, nor do they know of any other person using it but Dr. Price.

"The cause of Dr. Price's admiration of the Panacea need not be dwelt on at present. It is sufficient to remark, that he went to Europe, in the year 1823, as agent of Swaim, for the vending and distribution of the Panacea. Of the results of this mission the world has not yet been informed.

"Mr. Gerard S. Marks, Apothecary to the Philadelphia Alms-house Infirmary, reports, that, in the year 1822 or 1823, Swaim obtained permission from the managers of that institution to give his Panacea a trial.—The effects of this pretended specific were, to fail entirely in six cases out of eight; and of the remaining two, one was ameliorated and the other cured. Of the whole number, five were of *scrofulous disease*, and three of *secondary syphilis;* in which last it exercised no beneficial tendency. The Panacea produced, after a few days, in the first patient, James Ray, affected with scrofula, a most violent and alarming bowel complaint, accompanied

by great emaciation, under which he sank, notwithstanding the discontinuance of the medicine, and the judicious prescriptions of Dr. Parrish. In one of the cases of secondary syphilis, the Panacea seemed to produce temporary derangement; and in a few days after discontinuing its use the patient died. In another, of the same disease, the syrup of sarsaparilla prepared by the apothecary of the establishment, entirely relieved the patient after the Panacea had failed to produce any effect.

"In regard to the quantity of the Panacea used in the Alms-house Infirmary, the committee have learned from Mr. Marks, that from the 30th December, 1822, to the 20th January, 1825, sixty-seven bottles of this nostrum were purchased, at the cost of one hundred and sixty-seven dollars and fifty cents. Since the 20th Jan. 1825, "there has not one drop been purchased for the use of said institution.

"The principal points of difference between the panacea practice, and the regular treatment of scrofulous and syphilitic patients in the Alms-house, are, in the greater number of failures under the former or empirical, and the violent and alarming symptoms following the use of the nostrum. The expenditure of so much money on those hazardous experiments, naturally gives rise to a feeling of regret, that a portion of the sum thus wasted had not been directed to securing to the afflicted patients the benefits of those natural agencies, such as pure country air, and suitable regimen and exercise, which experience has proved are the best auxiliaries to medical treatment; and which are at all times more successful in the hands of the benevolent, for the relief of bodily suffering and disease, than any or all of the inventions of quackery.

"The sum of the Hospital practice is found in one solitary case." pp.5—7.

On the third head the Committee report facts gathered from the replies sent to their circular, by several distinguished physicians, all of which, however, only go to prove that which might have been naturally expected by every rational man, not blinded by ignorance, prejudice, or sordid interest—that this remedy, like every other powerful one, is capable of doing great harm when injudiciously administered.

The result also tends to confirm the views advanced in the Report of the Medical Society of the city and county of New-York, and the Philadelphia Committee have, with great candour, availed themselves of its valuable results. The following extract is furnished as additional evidence of the correctness of that Report.

"To this interesting statement the committee will add, that when Swaim first began to vend his syrup in this city, in the year 1820, the taste of

honey was very perceptible in it, as in the original French preparation; but of late years the syrup appears to have been made for the most part, if not entirely, of sugar. The addition of the winter green serves still more to disguise its taste and the nature of the other ingredients. Had Swaim stopped here, evidence similar to that adduced in favour of the French preparation might have been extended to his; with the large reservations required by his want of knowledge of pharmacy and of medicine, and the continual misapplication of the remedy by a wrong selection of cases; but, in an evil hour, the plan of mixing corrosive sublimate with at least certain parcels of his Panacea was adopted; and ignorance, vexatious before, was then armed with an instrument of mischief and destruction.

"It must be familiar to most medical men, that a certain portion of corrosive sublimate can be suspended in vegetable syrup, and so blended as to defy detection by chemical analysis: and it has been ascertained that the Rob de l'Affecteur has contained this mercurial salt, in the proportion of a grain, or a grain and a half to a pint, without its presence being made sensible by chemical tests. This circumstance will explain our inability to discover the existence of mercury in certain nostrums, except by their peculiar effects; such as salivation, and the train of disorders of the digestive organs and nervous system, following the injudicious use of the mineral. Submitted to this test, the Panacea of Swaim has, beyond all doubt, or equivocation, mercury as one of the ingredients frequently, though not constantly, entering into its composition. If occasion required it, a most voluminous mass of testimony might be collected in proof of this position. Some strong facts have been already placed before the Society to show the sialagogue, or salivating property of the Panacea. Dr. Gibson avers, that, in several cases which came under his notice, salivation followed the use of it. The testimony of Drs. Emlen, Harris, Horner, Hopkinson, and Griffith, is conclusive to the same effect. Among other documents on this head, the committee have been furnished with the case of a gentleman near Petersburgh, in Virginia, advanced in life, who took the Panacea for several large ulcers on his legs and various parts of his body. After he had finished one bottle, and commenced on the second, he suffered from severe salivation, and an inflammation and swelling of the glands of the mouth. He now desisted from its use, and, after a time, entirely recovered from the salivation; but a fresh trial of the nostrum was followed by the same effects as before, viz. profuse salivation. The dose in which this gentleman first used the Panacea was a wine-glassful; but his stomach could not bear this, and he reduced the quantity to a tea-spoonful three times a day. The appearance of mercurial eruptions, and the disorder of the stomach and bowels, sometimes of an incurable nature, consequent on the use of this Panacea, are also further illustrative of its mercurial character." pp. 22—24.

With the following remarks on the injurious influence which misguided newspaper editors may exercise by conniving at

the insidious attempts of quacks and quackmongers, we shall conclude our notice of this interesting document.

"Another evil, of scarcely less magnitude than the one which the committee have just been deprecating, is the currency given by the daily press to every garbled and partial statement of cures, alleged to have been effected by the various nostrums now in vogue. This course is greatly at variance with the presumed duties of newspaper editors, who are not wont, in matters alien from party politics, to be the ready echoes of ex-parte statements, which may exercise a pernicious influence over the health and morals of the community. In this instance, however, their laudatory notices, whether original or republished, are well calculated to encourage a worse than lottery gambling among their poorer and less enlightened fellow-citizens, by leading these latter to an expenditure of money entirely beyond their means, for which not one out of a hundred receives an adequate equivalent; while very many have their health irreparably injured. It is, at present, inconceivable, how some, who value themselves on their ripe scholarship, and who are, commonly, so prone to dilate on their sensitive regard for the public weal and the cause of justice, should signalize themselves on this occasion, as eulogists of ignorant conjecture and random experiment, even to the exclusion, in their papers, of counter and more correct statements of the true nature of the alleged wonder-working powers of Panaceas.

"The best commentary on this systematized abetting of the cause of empiricism, is to be met with in the increased number of empirics, and the greater boldness and presumptuous ignorance of those who were the first in the successful career of deception. The Panacea of Swaim was used in cancerous affections, and was found to fail so signally in producing any salutary effect, as to compel its proprietor to desist from recommending it in such cases. But mark the consequence. In place of retiring abashed from public notice, Mr. Swaim, who had persuaded physicians to certify in favour of his Panacea, by alleging his ignorance of diseases and remedies, and expressing his wish merely to prepare a useful compound, to be prescribed by them, now assumes the province of a surgeon, and, emboldened by past impunity from merited censure, asserts his ability to cure cancers, by certain plaisters and preparations, known, as he avers, to himself alone." p. 27.

The Report is well written, and altogether reflects great credit on the intelligence and industry of the Committee. Its members were Doctors W. E. Horner, Thomas Harris, Joseph Klapp, Charles D. Meigs, and John Bell.

ART. III. *Annals of the Lyceum of Natural History of New-York.* Vol. I. 1825. Vol. II. 1828. 8vo. New-York, G. & C. Carvill.

IN an early volume of our Journal, we noticed the initial numbers of the above work, and from time to time have announced its succeeding publications. As a second volume of these "Annals" is just completed, we have thought the present a fit season for registering the proceedings of a Society in whose prosperity we feel a proper degree of pride, and whose successful efforts are evidenced by valuable collections, an increasing library, and the works now before us.

A detailed analysis of the various articles will not, of course, be expected. We shall mention the titles of all, but content ourselves with only noticing a few which may be most interesting to the majority of our readers.

Under the general head of ZOOLOGY, are the following:

1. Observations on the Manners of the Hystrix Dorsata, or Porcupine of America, by Frederick S. Cozzens.
2. Description of a new genus of Mammiferous Quadrupeds, of the order Edentata, by Richard Harlan.
3. Note on the Hirundo Fulva, by John J. Audubon.
4. Facts and Observations on the permanent residence of the Swallow in the United States, by the same.
5. On the Hirundo Fulva of Vieillot, with some general remarks on the Birds of this genus, by De Witt Clinton.
6. Description of a North American species of the genus Fringilla, by William Cooper.
7. The Genera of North American Birds, and a Synopsis of the species found within the territory of the United States, systematically arranged in Orders and Families, by Charles L. Bonaparte. This elaborate paper occupies 280 pages of the second volume.
8. Additions to the Ornithology of the United States and Observations on the nomenclature of certain species, by Charles L. Bonaparte.

9. Description of a new species of Fish from the Hudson River, (Clupea hudsonia), by De Witt Clinton.
10. An Account of the Phoca Cristata, recently taken in the vicinity of New-York, by James E. Dekay.
11. Description of a new and gigantic species of the genus Cephalopterus of Dumeril, by Samuel L. Mitchill.
12. Description of an extraordinary Fish resembling the Stylephorus of Shaw, by the same.
13. Description of an apparently new species of Diodon, by the same.
14. Description of a new species of Siren, with some Observations on animals of a similar nature, by John Le Conte.
15. Observations on the genus Salamandra, by Richard Harlan.
16. Further Observations on the Amphiuma means, by the same.
17. Remarks on the American species of the Genera Hyla and Rana, by John Le Conte.
18. Description of the Siren intermedia, a new species, by the same.
19. Description of some new species of North American Insects, by the same.
20. Description of new American species of the Genera Buprestis, Trachys, and Elater, by Thomas Say.
21. Notice of several species of Shells, (two papers), by Daniel H. Barnes.
22. Note on the Murex Corona of Gmelin, by the same.

We may, also, add to this division,

23. Appearances on Dissection of the Phoca Cristata, by Frederick G. King and Edward G. Ludlow.
24. Account of a Dissection of the Proteus of the Lakes, with remarks on the Siren intermedia, by John Augustine Smith.

It is impossible to glance along this list, without expressing our regret at the loss which science and his country have recently sustained in the death of one of the earliest contributors to these memoirs. Amidst the toils and bustle of public life, De Witt Clinton found leisure to cultivate sci-

ence as an amusement and a solace, and his conduct will remain as an example to his successors in high stations.

The dissection of the Proteus of the Lakes, by Professor Smith, is interesting from its illustrating the peculiarities of that remarkable animal. The following are among the most striking facts noticed.

"The liver was large, its edges considerably indented, forming irregular lobes. It was connected with the anterior part of the abdomen by a fold of peritoneum, forming a long delicate suspensory ligament. The stomach was long, and full of food in various states of digestion; one insect, however, was still so perfect, that I have presented it to the Lyceum. It was recognised as the larva of a species of libellula.

"The pyloric contraction of the stomach was very evident, and an inch below it, the hepatic duct entered the duodenum. The spleen was connected with the left side of the stomach, there were no pancreas.

"The heart was contained in a very large pericardium. It was large, membranous, and irregular; but the quicksilver with which I attempted to inject it escaped, so that I could not determine its real shape. One vessel alone, I presume the aorta, arose from its right side. The inferior cava entered below. From the length of time the animal had been kept in spirits, I could not trace these vessels to my satisfaction. Dr. Mitchill, I understand, expects a further supply, when I hope to be more fortunate.

"In the inferior part of the throat the glottis opened. The passage was one-eighth of an inch in its antero-posterior diameter, but very narrow. I have passed a thread through it of a red color, so as to mark it, as otherwise it would not be very perceptible. This passage communicated with the lungs, only one of which I could inflate. This lung is a sac about three-eighths of an inch in diameter, and four and a half inches long when inflated.

"Here then is an animal furnished with one organ for the inhalation of air, and with another for extricating oxygen from the water, so that it is really and truly amphibious. This anatomical conclusion is confirmed by observation, our learned President, Major Delafield, having frequently seen the Proteus on the shores of the lakes, although the water be its proper element."—Vol. II. 259, 60.

The habits of the American Porcupine have been much misunderstood, and Mr. Cozzens has done a service by stating them in a more correct manner. His observations were made on one in his own possession.

"On the first view of this animal, the analogy between it and the sloths of South America is clearly and satisfactorily exhibited; and I am some-

what surprised that this fact has not before been noticed by authors. The slowness of its motions, and its remarkably long claws, are not the only peculiarities which prove its affinity to those animals. Even in its spiny covering, some likeness may be traced to the thick bushy hair of the *Ai*, and it seems to hold a place between the genera *Erinaceus* and *Bradypus.*

" The porcupine, when full grown, weighs between twenty and thirty pounds, and is about two feet in length including the tail, which is nearly one-third the length of the body. The general outline somewhat resembles that of the beaver, with the exception of the snout, which is abruptly truncated, broad, and with the upper lip divided. The back part of the head and neck are thickly beset with a cluster of small spines. The legs are uncommonly short, the joints not more than one inch and a half in length, bending inwards, and covered down to the claws with long bushy hair. On the fore feet he has four, and on the hind feet five, toes; which are furnished with remarkable long and curved claws, well adapted for climbing the highest trees. In walking, the tibia, as well as the tarsus, rest upon the ground, after the manner of the tortoise, which gives him an uncouth gait, or awkward hobble. His covering consists of long coarse hair, and a coat of shorter fur, intermixed with scattered spines. But the great cluster of spines, (or *quills*, as they have been termed,) and which he uses as a means of defence, are attached to a loose skin on the extreme part of the back near the tail, and when at rest can barely be seen projecting through the hair around that part. But on the animal's being irritated, he has the power (by means of strong muscles attached to the neck) of spreading them over the back with their points in every direction. Nor is this the only means of defence he makes use of. The tail, which is also armed with smaller spines, is held close to the body, or elevated in such a manner, that on the approach of an enemy he can strike suddenly, leaving his barbed spines, which adhere very loosely, to find their way to the very heart of those who molest him; for it is a fact, that they have the extraordinary and peculiar property of penetrating further into the flesh after being once lodged: and it often happens that dogs have been penetrated by them, in every direction, so as frequently to cause their death. This arises from the structure of the points, which are very sharp, and covered with a great number of small barbs, scarcely perceptible to the naked eye, lying imbricated over each other, and pointing backwards, so that on the least motion they are propelled forwards, in the same manner that an ear of rye will move up the arm when placed on the wrist. The tail, which is large, and of a fleshy substance, is linguiform, depressed, and about the thickness of a man's hand. Above, it is studded over with numbers of smaller spines; beneath it is thickly matted with a sort of bristles. On the upper surface there exudes a strong and fetid oil from a number of small pustules, which gives the quills a greasy appearance, and probably may be another means of keeping his enemies at bay. In walking, this member is dragged along the ground.

" The quills are white, tipt with black, and are from half an inch to

three in length. They are loosely attached to the skin, and come off very easily. The ears are entirely hid under the spines and hair. The eyes are small, shining, and black, and the expression of the countenance gentle and innocent.

"They vary very much in colour; the most common is a dark brown intermixed with white, giving them a gray appearance. The white is generally a kind of coarse hair, considerably longer than the other. Their voice is feeble and whining, from an octave descending to a sixth. Their food is the bark and leaves of the hemlock (*pinus canadensis*) and basswood (*tilia glabra;*) and they have been known to strip trees of their foliage in the same manner as the sloths of South America. They are, however, fond of sweet apples, corn, &c., which they eat holding in their fore claws in a sitting posture. The Indians say they are most excellent food, and esteem them highly. When they are discovered on the ground, which seldom happens, they do not strive to get out of the way, but on being approached, immediately spread the spines situated near the tail over the whole of the back.

"Of late years they have multiplied greatly, and are become numerous near the Oneida Lake, and in the north-western part of the State of New-York. Their quills are dyed of different colours by the Indians, and used as ornaments in giving a border to moccasins, wampum, leggins, and other parts of the Indian costume."—Vol. I. p. 90–2.

The Botanical Papers are the following:

1. Synoptical View of the Lichens growing in the vicinity of New-York, by Abraham Halsey.
2. Remarks on certain Entozoical Fungi, by the same.
3. Observations on the North American species of the genus Utricularia, by John Le Conte.
4. Observations on the North American species of the genus Gratioli, by the same.
5. Observations on the North American species of the genus Ruellia, by the same.
6. Analytical Table to facilitate the determination of the hitherto observed North American species of the genus Carex, by Lewis D. De Schweinitz.
7. Description of some new or rare Plants from the Rocky Mountains, collected in July 1820 by Dr. E. James, by John Torrey.
8. Description of some new Grasses collected by Dr. E. James, during the expedition of Major Long to the Rocky Mountains in 1819 and 20, by the same.

9. Description of some new Plants belonging to the orders Musci and Hepaticæ, by Robert K. Greville, LL.D.
10. Monograph of the North American species of Carex, by L. D. De Schweinitz and John Torrey.
11. Note on the Habitat of the Schizea Pusilla, by William Cooper.
12. On the North American Plants of the genus Tillandsia, with descriptions of three new species, by John Le Conte.
13. Observations on the North American species of the genus Viola, by the same.
14. Some Account of a collection of Plants made during a journey to the Rocky Mountains, in the summer of 1820, by E. P. James, M. D., by Dr. John Torrey.

In reviewing this catalogue, we are gratified to find that so much has been done in this highly interesting department of science. The papers on the plants collected in the western regions of the United States, are not only rich in species, new, or hitherto unknown on this continent, but furnish important materials for the study of our geographical botany. In this view we should like to see collected into one work, an account of all the plants hitherto discovered west of the Mississippi; so that at a glance, we might compare such a flora, with those of other sections of the United States. We have long been promised such a work from Mr. Nuttall, and we sincerely hope that he will soon redeem the pledge, for we know of no individual better qualified than himself.

Next in point of interest, is the monograph of the North American Carices, by L. De Schweinitz, and J. Torrey. Previous to the publication of this paper, Professor Dewey had commenced the examination of the North American species of this extensive and difficult genus; the results of which were published in successive numbers of Silliman's Journal. These two works furnish the American botanist ample means of studying their carices, and are monuments of the industry of their authors.

The remaining papers, with the exception of that of Mr. Halsey, noticed in a previous volume of this Journal, consist

chiefly of remarks upon particular genera or families of plants. In these the desire appears to be, not so much the presentation of new species, as the more complete investigation of doubtful ones—the correction of synonyms—the exposure of errors—and more detailed descriptions than are given in general works. Five memoirs of this kind are from the pen of Mr. Le Conte, in each of which he has rendered essential service to the botanical student. We trust he will have leisure and inclination to pursue this kind of research, and that his example will be followed by other botanists. Many of our American genera are still in great confusion, which it will require a concert of action to clear up. No single individual is, in our judgment, competent to the task. The living plants must be examined in their native situations, and in many instances, throughout successive seasons; and we should award as much, we had said more, credit to one who thus minutely examined a few genera, than to the more general writer upon our botany.

The paper of Dr. Greville, upon some new plants of the Orders Musci, and Hepaticæ, is not particularly interesting to the American botanist, but is a gratifying mark of the estimation in which this Society is held by one of the most eminent botanists of Great Britain.

The GEOLOGICAL papers are:

1. On the identity of the supposed Pumice of the Missouri, and a variety of Amygdaloid found near the Rocky Mountains, by Edwin James.
2. On the remains of the Megatherium recently discovered in Georgia, by William Cooper.
3. Account of the discovery of a skeleton of the Mastodon giganteum, by the same.
4. Note on the organic remains termed Bilobites, from the Katskill Mountains, by James E. Dekay.
5. Observations on the structure of Trilobites, and description of an apparently new genus, by the same.
6. Observations on the teeth of the Megatherium, recently discovered in the United States, by Samuel L. Mitchill.

7. Notice of Fossil Crustacea from New-Jersey, by Jeremiah Van Rensselaer.
8. Sketch of the Geology of the Island of Montreal, by J. J. Bigsby.
9. Observations on a Fossil Crustaceous Animal, of the order Branchiopoda, by James E. Dekay.
10. Farther discovery of Fossil Bones in Georgia; and remarks on their identity, with those of the Megatherium of Paraguay, by William Cooper.
11. Discovery of a Fossil Walrus in Virginia. Report on a Fossil Skull, by Messrs. Mitchill, J. A. Smith, and Cooper.
12. Report on several Fossil Multilocular Shells from the state of Delaware; with observations on a second specimen of the new Fossil genus Eurypterus, by J. E. Dekay.
13. Notes on a Fossil Skull in the Cabinet of the Lyceum, of the genus Bos, from the banks of the Mississippi; with observations on the American species of that genus, by the same author.

A great proportion of the papers just enumerated contain descriptions of fossil animals found in various parts of our country, the study of which is intimately connected with geology. The intrinsic interest of these relics, together with the light which they throw upon the history of our globe, will always insure to them the highest consideration. Indeed, since the publication of the works of Cuvier and Buckland, they have been objects of primary importance with the geologist. Thus far great success has attended the investigations of the Lyceum in this particular; and their museum already exhibits numerous specimens of the inhabitants of the ancient world. Of these, the Megatherium in particular, is deserving of attention. We trust the members will follow up this subject with activity, particularly in the thorough examination of our numerous caverns.

In the department of Mineralogy, the following papers occur.

1. Notice of new localities of simple minerals along the north coast of Lake Superior, and in the Indian Territory, north-west from Lake Superior to the river Winnepec, by Joseph Delafield. The most interesting of these are Epidote, Zeolite, Prehnite, Satin Spar, Calcedony, Agate, and Carnelian.
2. Examination of a mineral from Andover Furnace, New-Jersey, by James Renwick.
3. Notice of a locality of Yenite in the United States, by John Torrey.
4. An account of the Columbite of Haddam, (Connecticut) and notice of several other North American Minerals, by the same. In this paper, Professor Torrey shows the identity between Tantalite, and a mineral found at Haddam. This last would appear to be the same as the North American specimen of Columbite in the British Museum, which has excited so much interest among mineralogists.
4. Examination of Iron Ores from the northern part of the State of New-York, by Issachar Cozzens.
6. Remarks on native silver from Michigan, by H. R. Schoolcraft.
7. Analyses of the Copper Ore of Franconia, (New-Hampshire) with remarks on pyritous Copper, by James Freeman Dana.

The strictly CHEMICAL papers are the following :

1. Examination of the acid of the Rhus glabrum, with observations on the juice of the Sambucus canadensis, as a delicate test, by Issachar Cozzens. This we have formerly noticed. See New-York Med. and Phys. Journal, Vol. II. 511.
2. An account of some experiments on the root of the Sanguinaria canadensis, by James Freeman Dana. This was republished in our last volume.
3. Notes on some new supports for Minerals subjected to the action of the common blow-pipe, by Joseph G. Totten.

Col. Totten was led to an investigation of this subject,

from perusing an article by Mr. Smithson, in the Annals of Philosophy, on the subject of securing small particles for examination by the blow-pipe. Mr. Smithson suggests three processes. 1. Small plates of clay, formed by beating it with a hammer between the folds of a piece of paper. 2. A small portion of the clay moistened. The substance to be tested will adhere. 3. A paste of the body itself, reduced to fine powder. So successful was Mr. Smithson with these processes, that he melted flint, when even of considerable bulk, without difficulty.

As Col. Totten was not able to procure any clay sufficiently refractory, he was induced to use the mineral, which he designed to expose to the action of the flame, or in other words, to adopt Mr. Smithson's third process. The powder was made into a paste with very thick gum water, and formed under the finger into very acute cones. The particles to be tested, are very readily made to adhere to the points of these cones, and the flame of the blow-pipe can thus be directed upon it with full effect. The results were highly satisfactory. Precious serpentine melted instantly into a brownish yellow enamel. Common serpentine was more difficult of fusion, but its point formed a white blebby enamel. Black Flint, Calcedony, Carnelian, and Quartz, all melted readily. The last of these, however, was found infusible, when the smallest possible crystaline fragment was used. Colonel Totten, therefore, concludes that "this substance is fusible only in a state of powder."

These experiments (as our author observes) evidently increase the power of the common blow-pipe. With reference to it, minerals may be subdivided into the following classes.

1st. Such as are fusible per se with ordinary supports.

2nd. Such as are fusible per se in *microscopical particles.*

3d. Such as are fusible only with addition.

4th. Such as are infusible even with fluxes.

Two papers on Toxicology remain to be noticed.

1. Observations and Experiments on the seeds of the Cerbera Thevetia, by J. B. Ricord Madianna, M. D.

2. Researches and Experiments on the Genus Passiflora, by the same.

Orfila in his Toxicology, mentions that the nut of Cerbera ahovai, and the fruit of the Cerbera manghas, are each deemed highly poisonous. To these, Dr. M. has added another species with similar properties. Having made an emulsion with distilled water from the kernels of the C. Thevetia, he administered it to a dog. In half an hour vomiting was excited; the mouth was covered with foam. and the animal was much agitated, and ran in various directions. A stiffness of the posterior extremities, with staggering, ensued. These symptoms gradually abated, and in four hours from the time of taking the substance, he appeared out of danger. The dose here given was fourteen grains.

Twenty-eight grains administered to another dog, caused vomiting—great nervous weakness—insensibility—paralysis—dilatation of the pupils—laborious respiration—feeble and trembling pulse. Death ensued in twenty-two minutes after taking the poison.

On dissection, all the blood vessels leading to the brain were found distended with blood; the heart also was distend ed with black blood; the stomach much contracted, and its mucous membrane of a dark red colour, while the mucous membrane of the duodenum was much inflamed, and contained a mucous fluid, of a spongy yellow colour.

These facts render it probable, that the Cerbera Thevetia is an acrid poison.

We believe Dr. Madianna is the first who has noticed the poisonous qualities of the Passiflora Quadrangularis, or Basbadine. This plant is cultivated very extensively in Gaudaloupe.

An infusion of the root given in a large dose to small lizards, (*Anolis Bullaris, Daudin.*) produced convulsive motions, paralysis and death, in fifteen minutes. An extreme difficulty of breathing was a striking symptom. When given to birds of different species, and frogs, a small dose produced a slight convulsion; a larger one catalepsy, while death ensued from an increase of quantity. Two table spoonsfull of

the infusion made a dog cataleptic for an hour. His head and limbs remained in every position in which they were placed. At the expiration of the above time, he recovered with a slight chill.

In those animals that died from the effects of this poison, a great fulness of the blood-vessels of the lungs was noticed, together with black blood in the auricles and ventricles.

Dr. Madianna states, that in his experiments on the roots of this plant, he found a substance resembling opium.

QUARTERLY HISTORY

OF

IMPROVEMENTS IN MEDICINE AND SURGERY.

Foreign.

ANATOMY AND PHYSIOLOGY.

Chyle observed in the Veins of the Jejunum. By Professor Mayer of Bonn.*—From my own observations, as well as those of Majendie and Tiedemann, it has been proved that the veins of the intestinal canal, are capable of absorbing the different fluids which it contains. That these veins also take up chyle, is certainly not to be denied, although the fact cannot be easily demonstrated. Every piece of information, therefore, will be interesting, which confirms the opinion that the veins of the intestines absolutely absorb chyle, in a manner independent of the lymphatic system, or of those lacteals, the mouths of which open into the veins, as has been recently shown by Fohmann. The fact did not certainlyescape the attention of former anatomists, although their observations on the matter are few. Swammerdam Falkenbergh, Meckel senior, found chyle in the veins of the intestines, and Menghini, also observed it in the veins of birds; and in modern times Tiedemann† observed in the vena porta white streaks which resembled chyle. Others deny the possibility of the fact. The following case occurred to my notice:—

A robust man, about 79 years of age, died suddenly from a severe attack of asthma, and his body was soon afterwards brought to the anatomical theatre at Bonn. The chest, as well as pericardium, contained a great quantity of serum. The lungs strongly adhered to the lining membrane of the chest, and contained several tubercles and small abscesses. The viscera of the abdomem presented no diseased appearance. The upper

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* Tiedemann's and Trieviranus' Zeitschrift für Physiologie. Vol. I. p. 331.

† Versuche über die Wege auf welchen Substanzen, &c. Heidelbergh, 1820. p. 74.

and lower extremities were both anasarcous. The intestines were now removed from the body for the purposes of anatomical demonstration. On examining separate parts of the intestines with care, I observed both on the outer and inner surfaces of the small intestines, vessels of a greyish white colour. At first I took these vessels for lymphatics, but on a closer inspection, found that they were veins. The lower third of the duodenum, the whole jejunum, and a part of the ileum, were covered with these veins, which contained a fluid very similar to chyle; but this fluid only existed in the ramifications of the veins, situated on the surfaces and borders of the intestines; for at the spot where the two layers of the mesentery met, the veins contained blood. On dividing these small veins, a thick greyish fluid, resembling chyle in appearance, was poured out; the small intestines were filled with chyme. No lymphatic vessels containing chyle could be discovered. Unfortunately the organs were in such a state, as to prevent the examination being further prosecuted.

It scarcely admits of doubt that these veins really contained chyle; but it will be asked, how the lymphatic vessels of the intestines contained no chyle, although the man appears to have died at the moment when the formation of chyle in the jejunum and duodenum was taking place? This question I am unable to answer, but the appearance which I observed stands recorded. The vitality of the venous, probably continued longer than that of the lymphatic system, and that of the right, longer than the vitality of the left side of the heart. If this were the case, the systole and diastole of the right, continued longer than those of the left cavities of the heart, which might have exerted an influence on the absorption of the chyle, by the extremities of the veins of the intestines.

Distribution of nerves in muscular fibres.—In a Memoir on muscular action. MM. Dumas and Prevost, have communicated some very interesting microscopical observations, on the distribution of the nerves in the muscular fibres, and on the form which these latter assume during their contractions. They placed a thin piece of muscle retaining its nerves, under the microscope, and made it contract by means of galvanism. The fibres contracted by bending in a zig zag manner, and the last nervous filaments were seen to proceed parallel to each other, from the branch giving origin to them, to be inserted precisely at the points where the fibres form their angles.—*Edin. Phil. Journ. Oct. and Dec.* 1827, p. 200.

Pores of the Skin.—It is well known, that Leuwenhock said that he counted 14,400 pores, in a square inch of flesh, so that a square foot would contain 207,560,000. The whole surface of a middle size man, is fourteen square feet, which, according to the Dutch anatomist, would give 2,904,040,000 pores. Mr. Henry Eichorn, of Gottingen, wishing to be convinced of the accuracy of this assertion, lately investigated the subject, and found only 5000 pores to the square inch of flesh, and consequently 10,080,000 in a man.—*Lancet, 22nd Sep.* 1827.

On the Reproduction of the Crystalline Lens. (Journal de Physiologie Janvier 1827.)—It is generally believed that the lens of the eye being one of the solids of the body, is not reproduced when it has been removed by operation. But recent experiments made by MM. Cocteau and Leroy-d'Etiolle, prove that it is frequently reproduced, at least in the healthy state of the eye. They performed the operation of extraction on many rabbits, cats, and dogs; and they found that in some instances though not in all, the capsule examined at the end of four or six weeks contained a new body of a lenticular form, and approaching in consistence to that of the extracted lens. In one of their experiments they allowed the animal, a rabbit, to live till six months after the operation. "The crystalline capsules were then found perfectly transparent, without a visible cicatrix; and they contained each a lens of the same volume and consistence as those extracted. For the sake of greater certainty they were immersed in hot water, when they became opaque, hard, and friable, like ordinary lenses, the sole difference being, that the disposition in brilliant plates was evident only on the outer layers." The circumstances which determine their reproduction are not very apparent. Perhaps it is prevented by the same causes which occasion cataract; for certainly in persons operated on for that disease the lens has been often found not reproduced.—*Edin. Med. and Surg. Journ.*

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Cerebro-Spinal Fluid. (*Journal de Physiologie, Janvier* 1827.)—Various opinions have been at different times entertained as to the existence or non-existence of a fluid in the cavities of the skull and spine; but at length the general idea seems to have been, that it does not exist in a state of health, and is either a morbid production, or the consequence of exhalation after death. M. Magendie, however, has lately made many observations on man and animals, and has arrived at an opposite conclusion,—namely that in a state of health there is always more or less fluid between the pia mater and arachnoid membranes of the brain and spinal column. It is found along the whole course of the spine, over the surface of the brain, and in the ventricles, with which the fluid on the external surface of the brain communicates by an opening two or three lines wide, opposite the *calamus scriptorious* of the fourth ventricle, and between the posterior cerebellar arteries. It passes easily from one region to another, particularly from the spine into the ventricles of the brain; during the action of nodding, during expiration, during muscular action, or when a tight bandage or other pressure is applied to the abdomen, it is impelled towards the ventricles; during the contrary actions it returns into the spine. Its composition is peculiar; according to Lassaigne, it consists of ninety-eight parts of water and nearly two of solid matter, the solid ingredients being composed chiefly of osmazome, with a little albumen, muriate, and carbonate of soda, and phosphate of lime. Its principal use seems to be to preserve the brain and spinal marrow in a state of uniform compression; for if it be removed in a living animal, dulness, listlessness, and inaction are caused; and if it is augmented by the fluid taken from another animal, coma and apoplexy en-

sue. Hence when any change takes place in the volume of the encephalon, its functions are preserved and maintained by a converse change in the cerebral fluid. If an effusion of blood occurs, the quantity of the cerebral fluid is rapidly lessened by absorption; on the contrary, when the brain diminishes in volume, as in old age, the quantity of fluid is very much increased, both on the outside of the brain and in the ventricles. Some degree of pressure is exerted by this fluid on the organs it covers; for when the vertebral *theca* is punctured, a jet several inches in height is formed; and it is probable that the pressure varies with circumstances. No other fluid can serve the same purposes: even pure distilled water when substituted for it induces immediately a state of general convulsions, and other fluids increase that effect. It appears to be constantly undergoing absorption and renovation: when a solution of the ferro-cyanate of potassa was injected into the pleura, it was detected ten minutes afterwards in the cerebro-spinal fluid, and in twenty-four hours it had disappeared again. It likewise seems to pass from one part to another with great facility: on exposing the opening of the *aqeeductus sylvii* into the third ventricle of the brain, it will be seen that slight pressure on the sacral end of the spinal sheath causes the flow of the fluid into the ventricle. It further appears to be in a state of continual motion from place to place. This is shown in a very striking manner by the following pathological facts. A woman died of apoplexy in a few hours, in consequence of an extravasation of blood into the third ventrical: the surface of the clot was found blanched, and the whole cerebro-spinal fluid was tinged with blood. In another similar case, in which the clot had got into the aqueduct of sylvius and dilated it, but without any part having escaped from the fourth ventricle, the coloration of the spinal fluid was very deep. In a case of inflammation of the pia mater of the spinal chord, ending in suppuration, and proving suddenly fatal while the patient was trying to get out of bed, pus was found in the four ventricles of the brain, without any appearance of softening of their parietes, or vascularity of their lining membrane. In a case of apoplexy proving fatal in thirty hours, and caused by a large clot in the substance of the left hemisphere, there was no communication between the clot and the ventricles, yet the whole cerebro-spinal fluid was deeply coloured with blood: and it turned out, on minute examination, that the clot communicated by a small laceration of the brain with its external surface. These cases prove that the cerebro-spinal fluid is every where in communication, and constantly in a state of motion from place to place; and they show how symptoms of disease may exist in one part of the cerebro-spinal apparatus, when the active cause of the disease really exists in another place. On this subject M. Magendie promises a more detailed inquiry.—*Ibid.*

PATHOLOGY AND PRACTICAL MEDICINE.

Epilepsy.—The following case is published by M. Bosc, of the Bicêtre. A young man, named Lecoq, aged 17 years, an epileptic, was received in the above Institution in the month of December, 1826, and placed in a surgical ward, on account of a caries of the phalanges of one of his fingers. He was of feeble constitution, his limbs but little developed, and his flesh flabby and emaciated. His intellectual powers were almost annihilated, if they did ever exist. He made use of no words, except the monosyllables *Yes* and *No*. The epileptic fits were not frequent. He always slept on his right side in bed, with his head under the coverlet. He complained of no pain, but had a diarrhœa upon him during the three months before he died in the hospital. This complaint resisted all medicines, and was supposed to depend on ulceration of the intestines. The abdomen was extremely retracted. He wasted away gradually, and at length died.

Dissection—The cranium presented a sugar-loaf form. The meninges were sound. There were several depressions on the surface of the hemispheres corresponding to protuberances of the skull; and, in these depressions, as well as in several other parts of the brain, the cortical substance was soft, and almost diffluent. The anterior lobes of the brain were extremely little developed—the circumvolutions small and numerous —the anfractuosities shallow. It was found that the general surface of the brain was softened, as far as the cortical substance was concerned; but, below this, the medullary matter was so indurated as to resemble the white of a hard-boiled egg. This extreme degree of induration was particularly observed over the lateral ventricles. The bottom of the same cavities presented considerable softening of the medullary substance.—There was some serum in the ventricles. The cerebellum appeared sound, but was remarkably small. The spinal marrow was not examined. The contents of the thorax were natural. In the abdomen, the peritoneum was found to be the seat of extensive chronic inflammation, the convolutions of intestines being glued together by false membranes. There was a plentiful crop of miliary tubercles developed under the peritoneal covering. The mesenteric glands were in a state of disease. The intestines themselves appeared sound :—their mucous membrane was pale, and somewhat softened; and the mucous follicles were considerably developed in the colon and rectum, but unattended with any ulceration. There was no other change of structure discernible in any of the abdominal viscera, except some equivocal traces of disease in the liver.

The state of the brain sufficiently accounts for the condition of the intellectual faculties, and, on this, doubtless, were dependent the epileptic paroxysms. The state of the peritoneum proves, that chronic peritonitis may go on a long time without showing any very prominent symptom of its existence. The diarrhœa, which continued so long, and which, indeed,

appears to have carried the patient off at last, was evidently not the result of inflammation of the mucous membrane of the intestines, to which it is usually referred. It is more probable that, in this case, as well as in many others, it was connected with derangement of the biliary secretion.—*Johnson's Journal.*

Curious Species of Cerebral Hæmorrhage.—There is, says M. Bravais, a disease of the cortical substance of the brain, to which anatomists and pathologists have not directed sufficient attention. It is a hæmorrhage which generally occupies the whole of the cortical substance of the brain, giving place, first, to the formation of some small globules of blood, mixed with the nervous pulp, and afterwards producing yellowish cicatrices, extending from the external coverings of the brain down to the medullary matter. This lesion has an intimate connexion with cerebral hæmorrhage. The symptoms, at all times obscure, have not been distinguished when the disease was bounded to a small portion of brain. They are such as appertain to congestion and softening of the cerebral substance. Sanguineous effusions into the cortical structure are described by all authors; but M. Bravais has not seen any description answering to those yellow membranous-looking cicatrices which are now to be delineated.

Case 1. Pinard, aged 32 years, presenting, for several years, the symptoms of sombre melancholy, was observed to become rapidly emaciated during the last month of his life, and he complained much of pain in the right side of the chest, without any expectoration. He refused his food, and died on the 5th April, 1824.

Dissection.—There was a moderate proportion of blood in the sinuses and meninges of the brain—very little serosity on the surface of the hemispheres—or in the ventricles. The arachnoid and pia mater were transparent, and easily detached from the surface of the brain. In the posterior lobe of the left hemisphere was found a crude tubercle, of small size, which readily turned out with its investing membrane. Around this tubercle, the cortical substance of the brain was reduced to a pulp, of a dark colour, in which the debris of the cerebral structure was discernible, mixed with some globules of blood. The rest of the brain preserved its usual consistence. The lungs, especially on the right side, were filled with miliary tubercles, and the bronchial glands were tuberculous.

The narrator thinks it evident, that the cerebral tubercle, and the hæmorrhagic condition of the surrounding part, came on in the latter stage of this man's existence, and had nothing to do with the melancholic affection under which he so long laboured. Of this we do not see the evidence so very clearly. Knowing the slow growth of tubercles generally, we do not see any reasonable doubt, that the one situated in this man's brain may have contributed to the disturbance of the sensorial functions.

Case 2. Dupille, aged 50 years, entered the Bicetre, on the 15th May, 1824, with the following symptoms.—Delirium, loquacity, constant motion of his limbs. The strait waistcoat was applied. 20th May.—Considerable dyspnœa—delirium—coldness of the extremities—feeble and quick pulse—puriform expectoration with his cough. He died on the 29th May.

Dissection.—The meninges of the brain were perfectly natural, and the pia mater was easily detached from the subjacent cerebrum. There was a portion of cerebral substance, however, at the under part of the middle right lobe, which was completely impregnated, as it were, with blood, the nervous pulp and blood being intimately mixed. This was in the cortical substance. The medullary portion underneath was quite sound. In the thorax, a pint of limpid serum was found in the right side—in the left, a pint and a half of sanguinolent watery fluid. There was not any material disease of the lungs, except in one place. The pericardium adhered at one spot, by a false membrane, to the heart. The substance of the heart was soft, and easily lacerable, especially the left ventricle, which tore in two places, merely while handling it.

It is evident that the thoracic affections, in this case, were quite sufficient to destroy life. The cerebral hæmorrhage does not appear to have produced either convulsions, or loss of sensibility or muscular power.

A considerable number of other, and nearly similar cases, are related; but we think the above are sufficient to attract the attention of pathologists to this particular lesion of the brain.—*Ib.*

Laryngitis.—Case. Peter Chapion, 26 years of age, of vigorous and sanguineous constitution, came into the Hotel Dieu on the 11th March, being that day seized with acute pain in the throat, about the top of the larynx, quickly followed by difficulty of breathing and sense of suffocation. Eight ounces of blood were taken from the arm, but the sense of suffocation continued, and made progress, without increase of frequency in the pulse, or elevation of heat on the surface. *Thirty leeches* were applied round the neck, and, the same evening, venesection was repeated to *twenty ounces*. The dyspnœa was relieved by this last bleeding, and the sense of suffocation rendered less imminent. *Mustard pediluvia.* 12*th.*—The pain at the top of the throat is still acute—the voice is altered from its natural tenor, being much weaker—respiration difficult and sonorous, but not accompanied with much sense of suffocation—tumefaction of the tonsils and uvula—no appearance of albuminous exudation on any part of the fauces—the deglutition is difficult—pain on pressure of the larynx.—Some of the physicians, on introducing the finger, thought they felt a swelling about the rima glottidis. There was an expuition of reddish and sanguinolent saliva—pulse easily compressible and very little increased in frequency—heat moderate—countenance indicative of anxiety—great

prostration of strength—face neither pale nor flushed, but the circulation apparently impeded—inability to deviate from the upright posture. *Venesection—blister to the nu ha—purgatives—sinapisms to the lower extremities.* This day passed, like the preceding, in a state of constant dyspnœa, with occasional paroxysms of sense of suffocation, not, however, so threatening as to require tracheotomy. *Sixty leeches were applied round the neck*, and a cataplasm over the bites. 13*th*.—The sense of suffocation is diminished, and the patient can fill the chest by a deep inspiration—expectoration very difficult, but changing in character to the muco-purulent form. *Twenty more leeches to the neck.* On examination with the stethoscope, the breathing was heard much more distinctly in one side of the chest than in the other, and the *râle muqueux* indicated inflammatory action of the mucous membrane of the bronchia. From this time the expectoration became freer, and the dyspnœa less, until convalescence was established.—*Ib*.

Fatal Œdema of the Glottis.—Leonard Evans, of remarkably stout frame, had enjoyed good health until about two years ago, when he had a syphilis, which was completely cured. He had lately been subjected to sudden atmospheric vicissitudes, being a journeyman currier, in which occupation he was exposed to cold when the body was heated and perspiring. His habits had been regular and sober. Ten days before admission he had been employed in washing skins, and got wet in his feet. The same evening, he perceived his legs swelling, and this swelling increased and spread till general anasarca was established. In this condition he entered Guy's Hospital on the 15th November. His urine was very scanty. Elaterium was prescribed. 18th. The swellings rather diminished, and a grain of elaterium was continued twice a day. 19th. There was a dark brown tinge in his urine, which *coagulates by heat.* Elaterium—jalap and cream of tartar. 21st. The anasarca a good deal reduced—makes six or eight pints of urine per diem, of a high brandy colour, which does *not* coagulate. Dec. 1. Complains of pain under his jaw; but the œdematous swellings are nearly gone. The urine is only four pints per diem, coagulates, and contains much blood. Bled to ten ounces. This was repeated on the 2d, and half a grain of tartarized antimony, with two grains of opium were given daily. 3d. Complains of sore throat; but he is walking about the ward, and appears much better. An ammoniated liniment to the throat. 4th. The throat relieved. 5th. He seemed much better all yesterday, and slept soundly during the night. This morning, at 7 o'clock, he suddenly complained of great difficulty of swallowing and breathing, with severe sense of constriction in his throat and chest.—Fourteen ounces of blood were taken from the arm, and sixteen leeches were applied to the throat and chest. An emetic was administered. But all was unavailing, and, at eleven o'clock of the same day, he expired.

Dissection.—No anasarca—lungs rather gorged with blood, but otherwise healthy in structure. Heart and pericardium sound. Four ounces of fluid in each side of the chest. There was nothing very remarkable in any of the viscera, except the kidneys, which presented a very curious appearance. They were large and flabby, of the darkest chocolate colour interspersed with a few white points, and a great number of black, with a tinge of red—the whole having the appearance of polished fine grained porphyry, or green stone. These colours pervaded the whole of the cortical substance of the kidney; but the natural striated appearance was not lost. From the left kidney, when cut through, a large quantity of blood oozed out, showing an unusual accumulation in the organ.—These appearances are represented in the fifth plate of Dr. Bright's great work.

The epiglottis was next examined, and this was found to be greatly thickened by an œdematous effusion beneath the membrane on its upper side. "It was bent into the form of a pent-house, with a sharp angle."—The lower surface was also thickened, and presented a doubtful appearance of superficial ulceration. When the epiglottis was cut into, a considerable quantity of serous fluid oozed out, and the glottis itself was much contracted. Dr. B. properly observes, that there could be no doubt that the patient died of suffocation, from inflammation and consequent œdema of the glottis and epiglottis. This we believe—and surely the case was precisely one where bronchotomy would have saved the life of the patient, at least for that time.—*Ib.*

On the Treatment of Acute Rheumatism by Tight Bandaging. (*Archives Gén. de Médecine, Juin*, 1827.—In the number of this Journal for October and January last, a short account was given of a proposal made by M. Velpeau, of Paris, to treat the several varieties of diffuse subcutaneous inflammation by graduated pressure, applied by means of the roller bandage. The same plan has lately been tried with great success by Dr. Varlez, surgeon-in-chief of the military hospital of Brussels, in the treatment of acute rheumatism of the joints. He has related several cases in which the bandage was applied in the acutest form and stage of the disease, when the redness and swelling were great, the throbbing pain violent, and the general fever high, and in which the treatment was crowned with speedy and complete success. In almost every instance the application of the bandage is followed at first, and for two or three hours, with increase of the pain, so that the patient can with difficulty be persuaded to persevere; but soon afterwards the pain begins to abate, and the abatement then advances with rapidity. Dr. Varlez generally moistened the bandages with an emollient decoction, which, besides having the ordinary effects of emollients, were useful by increasing the pressure.—*Edinburgh Medical and Surgical Journal.*

On the Treatment of Inflammation of the Tongue, (*Horn's Archiv. für*

Medizinische Erfahrung.)—*Case* 1. A stout man, 68 years of age, by trade a mason, was attacked with pain in the throat, redness of the fauces, and swelling of the tonsils, but without much fever. These symptoms were considerably diminished by leeches applied to the angles of the jaws, emollient gargles, and a mustard pediluvium. But in consequence of exposure to cold he was soon afterwards seized during the night with a tormenting sense of tightness at the root of the tongue, difficulty in speaking and swallowing, and ere long with swelling in the tongue and impending suffocation. When his physician saw him in the morning, he could not speak; the pulse was very quick and feeble, the countenance pale and anxious, and the tongue filled the whole cavity of the mouth.—On account of the firmness with which the tongue was pressed against the roof of the mouth, and the patient's inability to separate the jaws to half the usual distance, it was found impossible to make on its upper surface more than two short incisions, from which very little blood flowed. An incision was therefore made with the lancet into each sublingual vein; and when the blood ceased to flow, fresh incisions were made, and the discharge promoted by injecting warm water into the mouth. In the course of two hours the swelling was so much diminished that the man was able to rinse the mouth with warm milk, after which a blister was applied to the neck and a purgative enema administered. A rapid amendment then took place, so that before the close of the day he could speak intelligibly, and his recovery went on steadily.

Case. 2.—Another case was of a less acute form than the former. It had existed eight days before it came under treatment. The patient had little pain or fever, but swallowed with great difficulty, and could breathe only in the upright posture. The case was cured by blisters, gargles, and the mustard pediluvium.—*Ib.*

Employment of Iodine in the Treatment of Cynanche Parotidæa. (*Rust's Magazin fur die gesammte Heilkunde*, 1826.)—Doctor Neumann, of Neustadtel, in Silesia, has employed the hydriodate of potass with great success as an external application in cynanche parotidæa, which prevailed epidemically in Neustadtel, in June 1823. Among the poorer orders who were treated in the ordinary way, the disease was very tedious, and generally ended in suppuration. Among the better ranks, the treatment consisted in the exhibition of an emetic, and the application over the tumour of a plaister composed of eight parts of mercurial ointment and one part of the hydriodate of potass; and the ordinary effect was a radical cure within three or four days. Doctor Neumann adds, that he never observed in the cases so treated any metastasis to other organs; and he is disposed to impute this to the formation of an erythematic eruption, which always appeared on the first or second day, and remained from eight to twelve days. The author has annexed a very instructive case, illustrating the deleterious effects of this drug when given in too great quantity. It was given to cure enlargment of the cervical glands, which it accomplished very ef-

fectually; but the patient was at the same time attacked with violent palpitation in the chest and abdomen, which was relieved only by the horizontal posture, then with great weakness and tendency to faint, and subsequently with emaciation and general dropsy. The palpitation was so violent and constant as at first to appear connected with organic derangement; but the relief obtained from the horizontal posture, the absence of cough and dyspnœa before the dropsy commenced, and the regularity of the pulse, led Doctor Neumann to conceive that the disorder of the heart was merely functional. Accordingly, although the patient had been ill for a twelvemonth, the irregularity of the heart's action was soon subdued by the employment of digitalis and cherry-laurel-water; and the tendency to faint and anxiety at the same time disappeared. The dropsy, however, continued much longer; but at length it slowly receded under the use of the *Arnica* combined with soap.—*Ib.*

MATERIA MEDICA.

On the Means of ascertaining the Purity of Sulphate of Quina. By R. Phillips, F.R.S. L. & E. &c.—The great demand which has arisen for this important medicine, and the high price at which it is necessarily sold, have excited some, who are careless as to the means by which they acquire gain, to sophisticate it in a vast number of ways, and by every means which talent misapplied could suggest.

Having repeatedly of late been requested to examine various samples of sulphate of quina, I thought it might be useful to state the several modes which may be employed for that purpose: and I make the present communication with the greater confidence, because I have received the very able assistance of my friend Mr. John T. Barry, of Lombard-street, to whose chemical skill, and the opportunity of frequently applying it, I am indebted for the greater number of hints and facts detailed in this paper.

Pure sulphate of quina has the form of minute fibrous crystals, it is inodorous, and its taste is bitter. If certain vegetable products, such as starch or sugar, be mechanically mixed with it, they may possibly be observed by merely inspecting the preparation with a glass.

1st. If the sulphate of quina be mixed with a considerable proportion of foreign matter, it may probably be detected by dissolving the salt in question in about three hundred times its weight of water—say one grain in about five fluid drams of boiling distilled water. On cooling, pure sulphate of quina will be deposited in feathery crystals in 24 hours, if there be no adulteration.

2d. As indirect, but as good collateral evidence, the taste of sulphate of quina of known good quality may be compared with that of another sample. Thus when pure, a grain of sulphate of quina will render nearly a pound and a half of water, or 10,500 grains, sensibly bitter.

3d. The alkalies, either pure or their carbonates, if but slightly in excess, always occasion precipitation at ordinary temperatures in a solution

of sulphate of quina containing only 1-1000dth of its weight, or less than one grain in two fluid ounces of water.

4th. A solution of tannin occasions a very sensible precipitate in an aqueous solution of sulphate of quina, containing only 1-10,000dth of its weight of the salt, provided there be no acid in excess. Kino is that form of tannin which best answers the purpose. It is, however, to be observed, that the salts of morphia, cinchonia, strychnia, &c. are similarly affected by tannin; but they are not likely to be mixed with sulphate of quina.

5th. Sulphate of quina suspected to contain sugar, gum, or other substances soluble in cold water, may be tried by digesting the same portion of the salt in small and successive portions of water to saturation. If the sulphate of quina be pure, and the solutions all properly saturated, they will have the same taste and specific gravity; and similar portions will yield by evaporation equal quantities of solid residuum.

6th. A repetition of the above process, substituting alcohol for water, answers for extracting resin and some other substances, because sulphate of quina is soluble in alcohol to only a limited extent.

7th. If a white substance insoluble in cold water be found in the sulphate of quina, heat the mixture to about 170 degrees of Fahrenheit.—This will render starch soluble, and its presence may be determined by the addition of an aqueous solution of iodine, which will immediately occasion a blue colour, and eventually a blue precipitate. The iodine should be added in very small quantity.

8th. Sulphate of quina has been adulterated with ammoniacal salts.—These are rendered obvious by adding a little of the suspected salt to a solution of potash. If any ammoniacal salt be present, ammoniacal gas will be readily detected, either by the smell, or by holding over the mixture a piece of turmeric paper, or a bit of glass moistened with acetic acid.

9th To ascertain whether sulphate of quina contains any earthy salts, such as sulphate of magnesia or sulphate of lime, burn a portion of it in a silver or platina crucible, or even in a clean tobacco-pipe. Any earthy salt, or any matter indestructible by heat, will of course remain in the vessel.

10th. To ascertain that the sulphate of quina contains the proper quantity of sulphuric acid and quina, dissolve a little in pure muriatic or nitric acid, and add a solution of muriate or nitrate of barytes: 60 parts should give about 17·3 to 17·4 of sulphate of barytes; or the method may be varied without the trouble of drying the precipitate. Dissolve 60 grains of sulphate of quina in water slightly acidulated with muriatic or nitric acid; add a solution of 18 grains of nitrate of barytes, and separate the precipitated sulphate of barytes by filtering. If nitrate of barytes be now added to the clear solution, it should still occasion slight precipitation, for 60 of sulphate of quina contain 5·8 gr. of sulphuric acid, equivalent to 19·1 of nitrate of barytes.

This test is only to determine that there is no crystallized vegetable matter uncombined with sulphuric acid in the sulphate of quina; the detection of earthy or alkaline sulphates has already been provided for.

11th. Sulphate of quina should lose not more than from eight to ten per cent of water by being heated till deprived of its water of crystallization. Mr. Barry informs me that he once examined a sample which contained more than 40 per cent of water in excess diffused through it.—*Philos. Mag.*

MEDICAL JURISPRUDENCE.

Feigned Diseases.—Dr. Cheyne, Physician General to the army in Ireland, has recently published in the Dublin Hospital Reports, an interesting letter on the *Feigned Diseases of Soldiers.* Individuals who simulate, or produce diseases to evade military duty, are generally styled *malingerers,* and of these, the experience of Dr. Cheyne for nearly thirty years has enabled him to witness many. Before proceeding to consider the precise object of his letter, which is the feigning of diseases *in the province of the physician,* he mentions the following cases, as showing that methods of deceit are systematized and preserved in regiments, and handed down for the benefit of those who may be inclined to make trial of them.

"When the 18th Hussars embarked for England in 1807, one of the men of that regiment who had been left behind in the King's Infirmary, joined at Rumford, with his scrotum very much enlarged and inflamed. His story was as follows. Soon after leaving the infirmary, he jumped from a window, upon which he immediately perceived a swelling in the groin; on his landing in Liverpool it became so large and painful that he could not walk, and was obliged to be forwarded to head-quarters in a cart. On handling the swelling, the surgeon of the regiment having perceived an unusual crepitus, as if air were diffused through the cellular substance, immediately wrote a statement of the case to the late Mr. Obré, who was surgeon to the king's infirmary, and in the mean time he used warm applications, purgatives, and low regimen. Mr. Obré, in reply, enclosed a paper that had been picked up in the ward of the infirmary in which the man lay, containing 'a receipt for making a rupture,' in which were directions to puncture the bag with a corking pin, and then by means of a tobacco pipe, to blow it up with air; and if it were wished to produce a double rupture, the same thing was to be done on the other side, after which warm poultices were to be applied to take down the inflammation. This man strenuously denied ever having made use of any such means. By the applications directed the swelling gradually subsided; but while under treatment, he got or pretended to get a pain in the right hip or groin and inability to move the limb. From this man's previous history, his new complaint was believed to be feigned. He was placed on low diet, the shower bath was used along with purgatives, a mercurial course, repeated blisters and issues, but he would not yield. The commanding officer of the regi-

ment disregarding the opinion of the surgeon and Dr. Warren, deputy inspector of hospitals, had this man brought forward, discharged previous to the embarkation of the corps for the peninsula, and was much displeased because the surgeon refused to sign a recommendatory certificate, by which refusal the reported man, who had been many years in the regiment, lost his pension. The same commanding officer, after his return from Corunna, met this man in London, perfectly well and following the laborious occupation of a porter."

Ophthalmia is another disease produced on a number by concerted means. "I never saw," says Dr. Cheyne, "a more humiliating picture of depravity, or perversion of reason, or call it what we may, than I have witnessed in a ward filled with soldiers labouring under that disease; most of the cases, as I learnt from the surgeon in attendance, being factitious. The methods by which inflammation of the eye is produced and maintained have not all been brought to light, but quick lime, infusion of tobacco, the gonorrhœal discharge, cantharides ointment, nitrate of silver, blue stone, and other metallic salts, are probably the most common irritants employed. Inflammation thus caused is most painful. and is kept up under every privation which can make life miserable: locked up in a dark ward, and permitted to have intercourse only with the officers of the hospital, nurses, and orderlies, confined to diet which from the absence of every stimulating material is most disrelishing, suffering under painful external applications and nauseating internal remedies, phlebotomized and leeched till their complexions are bloodless, their pulse hæmorrhagic and the frightful train of nervous symptoms, which excessive blood-letting produces, is established in the system.—All these evils, in many cases, have no effect but to confirm the soldier in his determination to destroy one or both of his eyes, that he may be dismissed from the service with the chance of a small pension."

The following diseases are enumerated by Dr. Cheyne as most frequently feigned. Paralysis, vertigo, headache, epilepsy, mania, hæmoptisis, phthisis, diseased heart, syncope, vomiting, tympany, dysentery, chronic hepatitis, fevers, rheumatism, and dropsy. We select some of his remarks on tympany, as this is a rarer disease than the rest.

"In 1811, as I learn from Dr. O'Hara, apothecary to the forces, a considerable number of patients, from thirty to forty, belonging to the 2nd battalion of the 84th regiment, were admitted into the king's infirmary, labouring as was stated in the admission ticket, under dropsy and intermittent fever. On examination, the abdomen was found greatly distended and felt tympanitic; the tongue, with few exceptions, was clean, pulse regular, urine natural, and bowels in general costive. These men complained of pain in the right side, and many of them of pain over the whole abdomen, with excessive thirst—drinking more than a gallon of water daily. The disease was at first considered a consequence of the Walcheren fever, but from the numbers increasing, and all with the same symptoms, Dr. Harvey was led to conclude that the complaint was feigned. Under that

impression, he prescribed a solution of glauber salts in weak tobacco-water, which he called the Infusum Benedictum; a cupful of this detestable compound was given in the morning and repeated every fourth hour, till it operated, and with perfect success. All who were in hospital recovered speedily, and the disease, which was becoming epidemical, soon disappeared. Sixteen, however, of the number had succeeded in obtaining their discharge before this method of treatment was discovered."

Two questions naturally occur relative to the production of this form of tympany. First, in what part of the intestinal tube is the air arrested; secondly, how is the distension produced. The air must be either in the stomach, or in the intestines. If in either intestine, it might be easily dislodged by the introduction of an elastic tube into the stomach first, and then up the rectum. If in the stomach, the air is probably swallowed, which many can do without difficulty. It was reported that the men of the 84th produced the distension by swallowing large quantities of chalk and vinegar. Mr. Bamfield, surgeon of the 35th regiment, relates, that "he has seen three cases of impostors, feigning enlargement of the abdomen, with tension and diseased viscera, which was done by protruding the abdomen by means of a deep inspiration, in which the diaphragm pressed the abdomen downwards and forwards, then the abdomen was kept so distended by means of very short expiration. The detection (he continues) was simple and easy, as it was only necessary to surprise the patient while asleep, when his abdomen was soft and unprotruded."—*Dublin Hospital Reports*, Vol. IV.

CHEMISTRY.

Bromine.—This name has been given to a supposed elementary substance discovered in sea-water by M. Balard of Montpelier. The name first applied to it by the discoverer was *muride;* this was subsequently changed to Brome, a term derived from the greek βρωμος, (*graveolentia*) signifying a rank or strong odour. But for the sake of conformity to the nomenclature, the appellation above given is to be preferred.

The original essay of M. Balard appeared in the *Annals de Chimie et de Physique*, for August, 1826. Since that time several papers have appeared in the foreign journals on the same subject. We propose giving a condensed view of what is at present known concerning this interesting substance. (*Editors New-York Med & Phys. Jour.*)

Properties of Bromine.—At common temperatures bromine is a liquid, the colour of which is blackish, red when viewed in mass, and by reflected light, but appears hyacinth red when a thin stratum is interposed between the light and the observer. Its odour, which somewhat resembles that of chlorine, is very disagreeable, and its taste powerful. It acts with energy on organic matters, such as wood or cork, and corrodes the animal texture; but if applied to the skin for a short time only, it communicates a yellow stain, which is less intense than that produced by iodine, and soon disappears.

It is highly destructive to animals, one drop of it placed on the beak of a bird having proved fatal. Its specific gravity is 2.996. Its volatility is very considerable; for at common temperatures it emits red coloured vapours, which are similar in appearance to those of nitrous acid, and at 116.5° F. it enters into ebullition. It retains its liquid form at the temperature of zero of Fahrenheit's thermometer; but according to Mr. Serullas, it is converted into a friable solid at a temperature between 0 and 4° Fahr. (*Ann. de Chim.* v. 34.)

Bromine is a non-conductor of electricity, and cannot be decomposed by the voltaic pile; neither has caloric any effect on its chemical nature, for it suffers no change on making its vapour pass through a luted tube of glass at a strong red heat. It supports combustion in a very feeble manner: a lighted taper immersed in the vapour of bromine is soon extinguished; but before going out, it burns a few seconds with a flame which is green at its base, and red at its upper part, as in an atmosphere of chlorine.

Bromine is soluble in water, in alcohol and particularly in ether. It does not redden the tincture of litmus, but rapidly bleaches it like chlorine: and it also deprives of colour the solution of indigo.

In its combinations with other substances, bromine comports in a manner similar to chlorine and iodine.

Bromic acid may be procured in a separate state by decomposing a dilute solution of bromate of baryta with sulphuric acid. It appears to consist of one atom of bromine and five atoms of oxygen, being similar in constitution to the iodic, chloric, and nitric acid. It combines with bases, and forms a class of salts denominated bromates.

Bromine and chlorine.—These combine at common temperatures, forming a very volatile liquid of a reddish-yellow colour, penetrating odour, and exceedingly disagreeable taste. It is soluble in water, and dissolves in that liquid apparently without decomposition; for the solution bleaches litmus paper without previously reddening it, and has the characteristic colour and odour of the compound. By the action of the alkalies it is resolved into muriatic and bromic acids.

Bromine and hydrogen.—No chemical action takes place between the vapour of bromine and hydrogen gas, at common temperatures, nor even by the agency of the direct solar rays; but on introducing a lighted candle, or a piece of red-hot iron into the mixture, combination ensues in the vicinity of the heated body, though without extending to the whole mixture, and without explosion. The union is readily affected by the action of bromine on some of the gaseous compounds of hydrogen. Thus on mixing the vapour of bromine with hydriodic acid, sulphuretted hydrogen, or phosphuretted hydrogen gases, decomposition follows, and a colourless gas possessed of acid properties, is generated. To this gas the name of hydrobromic acid, is applied. The hydro-bromic acid gas may be conveniently procured for experimental purposes, by a process similar to that for forming hydriodic acid. A mixture of bromine and phosphorus, slightly moisten-

ed, yields a large quantity of pure hydro-bromic acid gas, which may be collected over mercury.

The hydro-bromic acid is colourless, has an acid taste and a pungent odour. It irritates the glottis powerfully, so as to excite cough, and when mixed with moist air, yields white vapours, which are denser than those occasioned under the same circumstances by muriatic acid gas. It undergoes no decomposition when transmitted through a red hot tube either alone, or mixed with oxygen. It is not affected by iodine, but is instantly decomposed by chlorine, with the production of muriatic acid gas, and the deposition of bromine. It may be preserved without change over mercury; but potassium and tin decompose it with facility, the first at common temperatures, and the last by the aid of heat.

The hydro-bromic acid is very soluble in water. The aqueous solution may be made by treating bromine with sulphuretted hydrogen dissolved in water, or still better, by transmitting a current of hydro-bromic gas through pure water. The liquid becomes hot during the condensation, acquires great density, increases in volume, and emits white fumes when exposed to the air. This acid solution is colourless when pure, but possesses the property of dissolving a large quantity of bromine, and then receives the tint of that substance.

The composition of this acid may be inferred from the following facts. 1. On decomposing hydro-bromic acid by potassium, a quantity of hydrogen remains precisely equal to half the volume of the gas employed. 2. When hydriodic acid gas is decomposed by bromine, the resulting hydrobromic acid occupies the very same space as the gas which is decomposed. From these it appears that the hydro-bromic is analogous to hydriodic and muriatic acid gases; or that one hundred measures of hydro-bromic acid gas contain fifty measures of the vapour of bromine, and fifty of hydrogen.

It is also obvious from these experiments, that in relation to its affinity for hydrogen, bromine is intermediate between chlorine and iodine, its affinity for that substance being weaker than the first, and stronger than the second. The affinity of bromine and oxygen, for hydrogen appears nearly similar; for while oxygen cannot detach hydrogen from bromine, bromine does not decompose watery vapour.

Hydrocarburet of Bromine.—This compound is formed by adding one part of the hydrocarburet of iodine to two parts of bromine contained in a glass tube. Instantaneous action ensues, attended with disengagement of caloric and a hissing noise, and two new compounds, the bromuret of iodine, and a liquid hydrocarburet of bromine are generated. By means of water the former is dissolved, while the latter, coloured by bromine, collects at the bottom of the liquid. The decoloration is then affected by means of caustic potash. If in this process the hydro-carburet of iodine is in excess, very little hydrocarburet of bromine is formed; but a sub-bromuret of iodine analogous to the sub-chloride of iodine described by Gay Lussac, will then be obtained.

According to M. Serullas, its discoverer, the hydrocarburet of bromine, after being washed with solution of potash, is colourless, heavier than water, very volatile, of a penetrating ethereal odour, and of an exceedingly sweet taste, which it communicates to water in which it is placed, in consequence of being slightly soluble in that liquid. It differs chemically from the proto-hydrocarburet of iodine previously described by M Serullas, in yielding bromine instead of iodine when decomposed, in forming white instead of violet vapours when thrown on red hot poreclain, and in not acquiring a colour by exposure to the air. It becomes solid at a temperature between 21° and 23° F.

Cyanuret of bromine —This compound was prepared by M. Serullas, by adding one part of bromine to two of cyanuret of mercury, and subjecting them to low degrees of temperature in a manner analogous to that in which he procured the cyanuret of iodine. A strong action ensues, and two new products, viz. bromuret of mercury, and the cyanuret of bromine are formed; the latter of which collects in the upper part of the tube in the form of long needles. After allowing any vapour of bromine, which may have risen at the same time, to condense and fall down upon the cyanuret of mercury, the cyanuret of bromine is expelled by a gentle heat, and is collected in a recipient carefully cooled.

As thus formed the cyanuret is crystallized, sometimes in small regular colourless and transparent cubes, and sometimes in long and very slender needles. In its physical properties it is so very similar to the cyanuret of iodine, that they may easily be mistaken for each other, especially when the crystals of the cyanuret of bromine possess the acicular form. They agree closely in odour and volatility, but the cyanuret of bromine is even more volatile than the cyanuret of iodine. It is converted into vapour at 59° F. and crystallizes suddenly on cooling. Its solubility in water and alcohol is likewise greater than that of the cyanuret of iodine. Caustic potash in solution converts it into the hydro-cyanate and hydro bromate of potash.

Cyanuret of bromine is extremely deleterious. A grain dissolved in water and given to a rabbit, instantaneously killed it; the inconvenience produced by its deleterious properties, as well as the scarcity of bromine, induced M. Serullas to discontinue his experiments upon it.

In addition to the above, bromine also forms compounds with the metals, presenting in its action the closest resemblance to that which chlorine exerts on the same substances. Antimony and tin take fire by contact with bromine; and its union with potassium is attended with such intense disengagement of heat, as to cause a vivid flash of light, and to burst the vessel in which the experiment is performed. M. Balard is of opinion, that the soluble metallic bromurets are converted, like the similar compounds of chlorine and iodine, into neutral hydro-bromates, and reciprocally, that the hydro-bromates are frequently converted into bromurets in passing into the solid state. All the bromurets are decomposed by chlorine with the evolution of bromine; and the hydro-bromates are not only attacked by

chlorine, but by all substances, such as the chloric or nitric acids, which have a strong tendency to deprive other bodies of hydrogen. And the bromurets as far as they have been examined, bear a great resemblance to the chlorides.

Bromine acts upon the metallic oxides much in the same manner as chlorine. On passing the vapour of bromine over potassa, soda, baryta, or lime, a vivid incandescence ensues, oxygen is disengaged, and a metallic bromuret results. Magnesia and Zirconia are not decomposed by this treatment.

When bromine acts on the solution of an alkali, or alkaline earth, considerably diluted with water, the solution acquires bleaching properties; and the bromine can be separated by acetic acid. But when this substance acts upon a concentrated solution of potassa, or when solid potassa is agitated with the ethereal solution of bromine, two salts are generated, the hydro-bromate and bromate of potassa; and on evaporating the solution, the former is obtained in cubic and the latter in acicular crystals. The bromate of potassa is separated from the hydro-bromate by being very sparingly soluble in cold water. The alkaline earths likewise cause the formation of the two acids, but magnesia does not appear to possess that property.

The bromates as we have before remarked are analogous to the chlorates and iodates; and the hydro-bromates are no less analogous to the hydro-chlorates and hydriodates.

Sources and mode of obtaining bromine.—Bromine exists in sea water in the form of hydro-bromic acid, combined according to M. Balard, with magnesia. He also ascertained that it exists in marine plants which grow on the shores of the Mediterranean sea, and has procured it in appreciable quantity from the ashes of the sea-weeds that furnish iodine. The same chemist likewise detected its presence in the ashes of some animals, especially in those of the *Janthina violacea*, one of the testaceous mollusca. Professor Gmelin of Tübingen has since discovered bromine in the water of the Dead Sea. It has also been found in several salt springs in Germany. Thus it has been detected in the mother water of the salt works at Theodörshalle, by Professor Liebig; at the salt works at Rappenau in Baden, by Professor Geiger; at those of Dürrheim, Schweningen, Wimpfen, and Jaxfeld, by Professor Frommherz of Freyburg; at those of Halle by Dr. Meissner; of Schönebeck by Mr. Hermann; and of Rosenheim in Bavaria by Vogel. (*See Poggendorff's Annals, 8th volume, quoted in Brewster's Edin. Journ.* Vol. VII. 190.

The process which has been discovered for producing bromine in the easiest manner, and in the greatest quantities of any other, consists in passing for some time a current of chlorine through the mother water of the salt works, and then mixing the solution with a quantity of ether; after agitating this compound and leaving it at rest a few seconds, the ether rises to the top, coloured with a beautiful hyacinth red. This is a true ethereal solution of bromine, and on being agitated with caustic potash, the

latter by degrees loses its alkaline properties, becomes changed into a saline substance, soluble in water, and crystallizable in cubes. These crystals being pulverized with purified peroxide of manganese, and the mixture being put into a retort with diluted sulphuric acid, a ruddy vapour is produced, which condenses in the neck of the retort into drops of bromine.

Elementary nature of bromine.—From the circumstance of bromine being intermediate between chlorine and iodine, in some of its more important chemical relations, M. Ballard at first suspected it to be some unknown compound of these bodies; but as on further examination, he failed in obtaining the least trace of decomposition, he was induced to adopt the opinion that it is an elementary substance. The facts which have been related are greatly in favour of this view. Upon being laid before the Academy of Sciences, they were referred to three of the most eminent chemists in France, viz. MM. Vauquelin, Thenard, and Gay-Lussac. In their report they speak very highly of the experiments of Balard, and state that they had the opportunity of examining a minute quantity of bromine, and also of obtaining it from the salt marshes of Aren. And although they refrain from stating their conviction that it is a simple substance, they consider it as highly probable, and a point that can only be determined by continued researches, and on larger quantities.

M. Liebig, Professor of Chemistry in the University of Giessen, on receiving the memoir of M. Balard, obtained a quantity of bromine, and was enabled to repeat a great number of the experiments detailed in it; but he did not observe any phenomenon which leads to a conclusion contrary to that which M. Balard had deduced from his researches. Professor Liebig adds a few experiments in support of the opinion that bromine, like chlorine and iodine, is to be regarded as a simple substance. *Ferussac's Bulletin, December* 1826.

On the 10th of October 1826, M Chevreul is said to have announced to the Academy of Sciences, that M. Dumas had discovered a chloride of iodine which has all the properties of bromine. But this assertion seems to be completely disproved by the following experiments.

Iodine colours a solution of starch blue, bromine renders a similar solution orange colour. M. A. de la Rive added a few drops of bromine to a solution of starch coloured blue by iodine, and obtained a compound which gave two distinct colours with starch, one brown, the other yellow; the difference of colour corresponding with the two bromides of iodine described by M. Balard. These compounds of iodine and bromine, dissolved in a solution of starch, were subjected to the voltaic pile: immediately the yellow solution became blue about the negative pile, and orange about the positive pile, indicating the separation and places of the iodine and bromine. Thus the smallest quantity of iodine may be discovered in bromine; but when the experiment was resorted to, to prove whether the idea thrown out, that bromine was a compound of chlorine and iodine, was founded in fact or not, it gave no such indication, and a solution of bromine in starch electrified for a long time together, gave no appearance of iodine.

Hence M. de la Rive concludes, that bromine contains no iodine, but is an element analogous to iodine and chlorine.

When bromine and iodine are combined, the former passes to the positive pole, and is consequently more negative than the latter; which accords with the observation of M. Balard, that it should occupy a place between chlorine and iodine.

According to the *Bulletin Universelle*, when the letter of M. Arrago, containing an account of the facts above referred to, was read to the Academy of Sciences, that body decided that the assertion of M. Dumas, that bromine was a compound of chlorine and iodine, should be considered as retracted, and that it should be so entered upon the proces-verbal of the sitting.

Upon the whole therefore, the weight of evidence is greatly in favour of the elementary nature of bromine, although the question is not fully settled. The examination of it appears to have been confined chiefly to the continental chemists; and as yet we have seen no original remarks or experiments from those of Great Britain. Where are the Davys, the Wollastons, and the Thomsons? Have they left the field, or are they about to yield their boasted superiority?

Sale of bromine.—The discoverer of bromine, M Balard, has been enabled by his improvements, to prepare that peculiar body in quantities sufficient to permit its sale. It may be obtained at his shop, Rue Argenterie à Montpellier, or at M. Quesneville's manufactory of chemical substances at Paris. The price is four francs the gros. (about 60 grains) fourteen francs the half ounce, and twenty-three francs the ounce.*

MISCELLANEOUS.

Cultivation of Horse Radish in Denmark.—An account of this was given to the London Horticultural Society, November 6th, 1827. The roots are cut into slips, and planted *horizontally*, the lower end inclining a little upwards; and the crown of the plant hanging over the alleys, by which the beds are separated. From time to time, the roots are uncovered, and all the *lateral* fibres are carefully removed, by which the size and length of the roots are much increased.—*Brande's Journal, N. S. No. 4. p. 427.*

Object of Embalming in Egypt —A French Chemist, M. Julia Fontenelle, in a discourse delivered on occasion of the opening of an Egyptian Mummy in the theatre of the Sorbonne at Paris, has delivered an opinion respecting the cause of embalming in Egypt, that they were led to it from physical necessity. During four months of every year, the inundation of the Nile covers almost entirely the whole of the surface of Egypt which is under

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* For the preceding elaborate account of Bromine, we are indebted to a gentleman who will hereafter superintend the chemical department of this Journal. *Ed. New-York Med. & Phys. Jour.*

cultivation. Under the reign of Sesostris, for an extent of territory of about 2250 square leagues, there would be a population of 6222 persons per square league, which would present 350,000 deaths per annum. These corpses must be got rid of either by burning or interment; if the latter, they must be buried around the inhabited spots, or in those which were inundated by the Nile, and then the decomposition of these bodies would have been a source of infection; and for burning bodies, there was a want of a sufficiency of wood. But the soil of Egypt abounds in springs of natron and sub-carbonate of soda; and as this substance is antiseptic, the inhabitants were naturally led to preserve with it the corpses of the dead. In support of this opinion, that sanitary views alone were the cause of embalming, down to the third century before the christian era, when the practice was discontinued, M. Fontenelle observed, that during the whole of that period, the plague was unknown in Egypt, where it is now endemic.—*Jameson's New Edinburg Philosophical Journal, No.* 6. p. 393.

Rate of Sickness in the British Army.—The very interesting and novel subject of the average rate of sickness among individuals, has lately excited considerable attention in Great Britain. It appears to have been particularly examined with reference to the establishment and organization of friendly societies. In an inquiry before the House of Commons in 1825, Mr. Finlaison, one of the witnesses, presented the following account of the rate of sickness in the British army for the years 1823 and 1824.

An abstract is preserved in the Adjutant General's office of the musters made on the 25th of every month, of each regiment or corps in England, showing, exclusive of officers and non-commissioned officers, the numbers of rank and file actually composing the corps, with the number of those who are sick on the day of muster, whether they are in general hospitals, regimental hospitals, or sick quarters. These details are all carefully summed in three divisions, for cavalry, infantry, and foot guards; so that the result for any number of years, may be copied out with the utmost facility. It is understood, that at present, there are few, if any in the army, above the age of 45, and that their average age is decidedly under 30. Moreover it is well known, that they are picked and chosen young men when entered; and that those who afterwards become diseased and unhealthy, are discharged from time to time; that they are regular in their habits; free from exhausting labour; from the cares of families; and from most causes which superinduce disease. Their occasional sickness cannot easily be much exaggerated by imposture; and abating the single consideration, that some part of them are perhaps regiments returned from foreign service with debilitated constitutions, it would, on the whole, seem that the army quartered in England ought to present sickness at a minimum among mankind.

Mr. Finlaison had obtained the results for each month in the years 1823 and 1824, which he had combined; the result was,

	The total rank and file present, or accounted for in 24 musters.	Of whom there were constantly sick at the time that the musters took place.
Cavalry,	94,293	3,791
Infantry,	126,513	6,297
Foot Guards,	92,889	3,961
	Total 313,695	14,049

So that there were constantly sick of the Cavalry, 4·0204 per cent.
Infantry, 4·9773 per cent.
Foot Guards, 4·2642 per cent.
And of the whole army, 4·478553 per cent.

It further appears, that in the two musters which took place,

	Rank and File.	Of whom sick.	Per cent.
On 25th Jan. 1823 & 24 there were,	24,281	1089	being 4·4850
25th Feb.	25,117	1107	4·40737
25th March,	25,183	1148	4·55862
25th April,	26,157	1220	4·66414
25th May,	26,244	1227	4·67535
25th June,	25,649	1134	3·51190
25th July	25,417	1027	4·04060
25th August,	27,007	1385	4·86911
25th September,	27,416	1340	4·88766
25th October,	27401	1244	4·53998
25th November,	26,840	1135	4·22876
25th December,	26,983	1063	3·93952
	313,695	14,049	being 4·478553

So that for every 100 men sick on 25th June,

There were,	112·176 sick on 25th December.
	115·054 25th July.
	120·412 25th November.
	125·498 25th February.
	127·705 25th January.
	129 274 25th October.
	129·805 25th March.
	132·774 25th April.
	133·129 25th May.
	138·645 25th August.
	139·174 25th September.

But on the whole two years, the rate of sickness is remarkably constant and uniform, and being equal to 4·478553 per cent; this is the same as if 100 soldiers had sustained among them 233 weeks of sickness every year, or as if each had been sick 2·33 weeks.—*Edinburgh New Philosophical Journal*, Vol. VI. p. 291.*

* In our next, we shall present some of the results obtained from inquiries among Friendly Societies.—*Ed. New-York Med. & Phys. Jour.*

Effects of the Conscription in France.—Mr. Dupin in his late work, "*Forces Productives et Commerciales de la France,*" makes the following statement. From returns presented by the Minister of War in 1826, it appears that of 1,033,422 young men, who had been called before the council of revision for military service, no less than 380,213 were rejected, because they did not reach the low stature of 4 feet 10 inches French, or 5 feet $1\frac{7}{8}$ inches English. And although more than one-third, of all the youth of military age are thus set aside, it is found, that among the men actuallyserving in the army, 37 in the 100 are below 5 feet 5 inches English; and only 45 in the 100 above 5 feet $6\frac{1}{8}$ inches. This dwarfishness is more prevalent among the inhabitants of the south of France, than among the German, Flemish, and Norman races, that people the northern provinces. Mr. Dupin thinks that this has been produced, or at least aggravated by the conscription. The most robust and vigorous of the young men being drafted off, and destroyed in the wars: an unusual proportion of marriages were made, and families reared by the feeble, the old, and the deformed.—*Foreign Quarterly Review, No. 2.*

UNIVERSITY REGISTER.

[Continued from Vol. VI. p. 631.]

The memorial of Dr. Romayne, (which is dated January 11, 1790,) states, "that in the year 1787 he instituted a College in the City of New-York, for teaching the various parts of science, comprehended in a course of medical education in the most respectable Universities in Europe. That from a commencement naturally small, and difficulties inseparable from the establishment of such institutions, he has now, after great labour and private sacrifices, brought his plans into full effect.

"That during the winter sessions, beginning the first Monday in November, and ending the third Saturday in April, lectures are delivered on the *Practice of Physic, Anatomy, the Institutions of Medicine, Midwifery, and Surgery,* and in such manner, that two lectures are delivered a day, five days in the week during the said session. And also, that during the summer sessions, commencing the first Monday in May, and ending the third Friday in August, lectures are delivered in *Chemistry, Botany, and the Materia Medica;* and in such manner also, that the students of medicine have an opportunity of attending two lectures a day, five days in the week.

"That to promote the said Institution, the Corporation of the city of New-York have been pleased to commit to the charge of your memorialist, the sick in the Alms-house and Bridewell; whose diseases are registered, together with daily reports of the symptoms, the prescriptions, and the

effects of medicine, for the farther improvement of the students of physic; and that during the winter session, *clinical lectures* are delivered every Saturday, on cases of the most importance, selected from the number of sick.

"Your memorialist forbears to enlarge on the advantages which may probably arise from the said institution to such of the youth of this state as are engaged in the study of physic, of the neighbouring states, or the United States in general. The peculiar excellence of a medical school must greatly depend upon its connexion with a practical Hospital; the want of which is lamented in seminaries for medical education in Europe, which have obtained degrees of celebrity. And in the United States, though medical instruction is afforded at Boston and at Philadelphia, yet hitherto it is not connected with that practical information, which can only be obtained by diligent and assiduous attention to the sick. Your memorialist therefore prays, that the Regents of the University of the State of New-York will be pleased to take the said College under their protection, and direct such measures with respect to it as in their wisdom may tend to the important end of its institution."

Annexed to this memorial is a list of students for the year 1790, amounting to thirty-seven, and also a list of students attending the Alms-house in the same year, being thirty-five in number.

On the 28th of January, 1791, the Rev. Dr. (afterwards Bishop) Moore, from the committee to whom was referred the above memorial, made a report as follows, and which was agreed to by the Board.

"That in the opinion of this committee, the above mentioned institution for the purpose of diffusing medical knowledge, is well calculated to promote the general good, so far as it depends on this important branch of science, and therefore, that this institution merits the protection of the University.

"That this University be pleased to express their approbation of the same, and cause the resolution containing such approbation, to be entered on their journals.

"That, if consistently with the laws of our institution, no pecuniary assistance can be afforded, the Board will at least appoint a committee to superintend, from time to time, the course of instruction which is given in the above named medical college, and to report at the next annual meeting of the University, what further provision can be made to promote the interest of the same."

The following resolutions were then adopted:

Resolved, "That in the opinion of this University, the above mentioned institution for the purpose of diffusing medical knowledge, is well calculated to promote the general good, so far as it depends on this important branch of science.

Resolved, "That Dr. Linn, Dr. Moore, Mr. Verplanck, Dr. Rodgers, Baron Steuben, and Mr. Clarkson, be a committee to visit the above mentioned school, instituted by Dr. Nicholas Romayne, for teaching the various parts of science comprehended in a course of medical education."

On the 23d of February, 1791, a petition was presented by Sir James Jay, Knt. Samuel Nicoll, William Moore, Nicholas Romayne, Benjamin Kissam, Samuel L. Mitchill, and Richard S. Kissam, Doctors of Physic, praying that they, together with Samuel Bard, John R. B. Rodgers, and William Hammersley, may be incorporated, agreeably to the 7th section of the act to institute an University, passed April 13, 1797, with the powers, in respect to government and property, usually granted to any collegiate society, and with the privilege of recommending to the University, for medical degrees, such of their students as in the presence of the Regents shall pass with credit the several examinations, which are appointed in the most celebrated Universities in Europe, to ascertain the proficiency and merit of the candidates."

The petition concludes as follows:

"The plan which your memorialists have in contemplation, is no other than what gave birth to the most celebrated school in Europe. That it was only to the public-spirited exertions of a few young gentlemen, educated under the immortal Boerhaave, that the medical school of Edinburgh owed its rise, as it now owes to their pupils who succeeded them in teaching, the pre-eminent rank it holds in the learned world. That, educated as your memorialists have been in that school and honoured as they have been with ample testimonies from thence, of their diligence and proficiency, they flatter themselves that the Regents of the University of New-York will not pay so ill a compliment to American genius, as to suppose that what has been performed by other men, cannot be achieved by their own countrymen."

At the same meeting, a counter memorial signed by John Bard, President, John Charlton, Vice President, and James Tillary, Secretary, of the Medical Society of the State of New-York,* was presented. We shall give this in full.

"This society is just now informed, and not without some degree of regret as well as astonishment, that some medical gentlemen in this city have unadvisedly made application to your Board for an act of incorporation, to constitute them a college of physicians.

"Although we apprehend there is little danger of a precipitate adoption of any measure of this nature by you, yet aware of its important and disagreeable consequences, interested in the prosperity of medical science, and the respectability of our profession, and feeling ourselves in a certain sphere guardians of the harmony and peace of practitioners in the healing art, we cannot suppose it our duty to omit a seasonable interposition, or to hazard in this instance the effects either of surprise or management.

"We are also constrained to observe, that as yet we are unable to conceive of any solid basis upon which those gentlemen applicants could found

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* This cannot have been an *Incorporated Society;* at least we can find no law to that effect.

an elevating distinction in their own favour, which may perhaps prove invidious; a preference, which operates to the exclusion of other medical characters, who might rest their claims either upon seniority, or upon an extensive or established reputation.

"It is not without a regard to the honour of the University itself, that we declare it our opinion, that a measure of this kind, particularly at this time, would neither tend to general utility or happiness; to a beneficial influence upon the cultivation of medical knowledge; to the harmony and satisfaction of physicians; nor be consistent with that policy which those who cherish these objects should pursue.

"A plan of medical arrangements is now before the legislature, in which we repose a confidence of extensive utility, and we are therefore jealous of any institution calculated to interfere therewith, or to arrest its operations; such measures have also been taken by this society, to stimulate youth to industry and application, as appear totally to preclude the present necessity of an incorporated College of Physicians.

"It is by no means intended that this memorial should in any degree discountenance a medical school. Individuals who with assiduity prosecute this object, merit every encouragement. The field is open, and there is ample room for the professors of Columbia College to display therein their active abilities."

The above petition and memorial after being read, were committed to Dr. Moore, Dr. Linn, Mr. L'Hommedieu, Mr. Clarkson, and Mr. Verplanck.

On the 2d of March, 1791, a petition from a number of students of medicine was presented, praying that a medical institution might be incorporated, with powers to grant medical degrees. This was also referred to the committee just named.

Mr. L'Hommedieu, then made a report, which after being considered for some time, was postponed until the next meeting. The Board adjourned until the 3d, when the members (present the Chancellor, the Vice Chancellor, Dr Moore, Dr. Linn, Mr. Clarkson, Mr. Tompkins, Mr. Verplanck, Mr. L'Hommedieu, and Mr. James Livingston,) again resolved themselves into a committee on the same subject, and after discussing it, agreed to a report in the following words:

"That in the opinion of your committee, the establishment of a College of Physicians would be an object of great importance to the interest of the community, as it might be rendered singularly useful in promoting medical science, and contribute essentially to the reputation and emolument of the state. It would not only prevent, in the opinion of your committee, the students of medicine in our own state from going abroad for the purpose of acquiring that knowledge and those honours in their profession that they might acquire at home, but would attract the attention of young gentlemen of neighbouring states, who may desire to prepare themselves for the practice of physic with usefulness and reputation.

"Your committee at the same time beg leave farther to report, that the statute instituting an University within this state, does in no instance contemplate the incorporation of colleges or academies for the teaching exclusively of any particular branches of science, however important and useful; and that therefore the Regency cannot consistently take any order on the aforegoing memorial.

"But considering the importance of such institution, your committee are of opinion it would be proper for the Regents to submit this subject to the consideration of the legislature."

Resolved, That the Chancellor be requested to transmit a copy of the aforegoing proceedings to the honourable the legislature.

The legislature appear to have promptly attended to the application, as on the 24th of March, 1791, an act was passed, "*to enable the Regents of the University to establish a College of Physicians and Surgeons within this State.*"

"This act ordains, that the Regents may, if they shall judge it proper and necessary, establish under their common seal, a College of Physicians and Surgeons, for the sole purpose of promoting medical science; to consist of at least thirteen trustees or members, who shall be vested with such powers and privileges, as the said Regents shall judge best calculated to answer the purposes of such an institution; *provided always*, that the amount of the property which the said College shall or may be authorized to hold, shall never exceed in value £60,000 current money of New-York; and that the said Regents reserve to themselves, the right of conferring degrees, and appointing professors or teachers of the several branches of the medical science in the said College; and of filling all such vacancies as shall or may arise among the trustees or members thereof; *provided also*, that any of the trustees of the said College shall, in the discretion of the Regents of the University, be appointed professors and teachers in the said College, any law to the contrary notwithstanding."

The second section enacts, that the College so to be established, shall be forthwith thereafter a corporation; and shall be known by such name as the Regents shall direct and appoint; and shall have full corporate rights.*

The Regents met on the same day that the above bill passed, and it was laid before them by the Chancellor. It was thereupon

Resolved, "That this Board judge it proper and necessary to establish a College of Physicians and Surgeons, pursuant to the authority for that purpose granted to the Regents of the University by the said act.

Resolved, "That the Vice Chancellor, Baron Steuben, Dr. Moore, Dr. Linn, Gen. Clarkson, Mr. Verplanck, and Mr. L'Hommedieu, be a committee to prepare a draft of an instrument to incorporate a College of Phy-

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* Webster's edition of the Laws, 1802. Vol. II. p. 245.

sicians and Surgeons, conformable to the preceding resolution; and that they report the same at the next meeting of the Regents."

Shortly after, the Board adjourned until the next session of the legislature.

On the 1st of February, 1792, Dr. Linn presented to the Board an extract from the minutes of Columbia College, containing an appointment of a committee from the said trustees, to meet with a committee of the Board of Regents, on the subject of a medical institution, which extract was accompanied with a verbal request to Dr. Linn, to lay the same before the Regents; whereupon,

Resolved, "That when the trustees of Columbia College shall lay before this Board, their report on the subject of a medical institution, alluded to in said extract, and solicit the attention of this Board thereto, it will become the subject of investigation.

Resolved, "That the secretary transmit a copy of the foregoing resolution to the trustees of Columbia College."

On the 8th of February, 1792, "a representation from the trustees of Columbia College respecting a medical institution, was laid before the Board by the Vice Chancellor.

Resolved, "That the Vice Chancellor, Mr. L'Hommedieu, Dr. Linn, Dr. Moore, and Mr. Clarkson, be a committee to confer with the committee appointed by the trustees of Columbia College, on the subject of said institution."

The Vice Chancellor from the said committee, reported on the 15th of February, as follows:

"The committee appointed, &c. report, that they met with the said committee, and were informed by them, that the trustees of said College not only had it in contemplation to institute a medical school agreeable to their charter, as appears by the official papers on the subject, delivered into your Board at their last meeting, but that they had the business much at heart, and were actually proceeding in it as fast as possible. And they do not doubt, but they would be able very shortly to effect it in such a manner, as fully to answer all the important ends designed by the legislature, in the law passed by the legislature at their last session, empowering the Regents to erect such an institution.

"They therefore request the Regents would suspend for the present, any further operations on the subject, until they shall see the effect of the measures which Columbia College is taking on it, which they hoped would be to their entire satisfaction."

It was accordingly

Resolved, "That this Board, agreeably to the request of the trustees of Columbia College by their committee, suspend for the present any further operations respecting a medical institution, till they see the issue of that instituted by said College; and that the committee appointed last spring,

for preparing a charter for a medical school, under the law passed at the last session of the legislature, be dismissed.*

"On the 29th of February, 1792, a petition signed by John Bowne Hicks, and fourteen others, students of medicine in the city of New-York, was presented. It stated that they had pursued all the different branches of medicine, as taught in the most celebrated Universities, and now "wish to present themselves in such a manner, and at such times as the Regents may be pleased to direct, that they may be examined by the proper persons, and also perform the usual exercises; and, that if in the opinion of the Regents they be found qualified, such honours of the University of this State may be conferred on them as they may respectively merit, and which in justice they may be found entitled to receive."

The Regents, after duly considering said petition, resolved, that the prayer thereof cannot be granted.

"On the 27th of March, 1792, the Vice-Chancellor, from the committee appointed last year to visit the medical school of Doctor Romayne, reported, that soon after their appointment, some of them did visit it, and were well pleased with his manner of lecturing, and conceived favourably of his plan, and the utility it promised to the public. They further report that Doctor Romayne having, in the month of May last, accepted of an appointment to three lectureships in medicine, by the Trustees of Columbia College, who were at that time meditating a revival of the medical school, your committee conceived that he had by this act placed himself under the immediate patronage of Columbia College, and therefore could not be considered, in the opinion of your committee, any longer as at the head of a distinct school."

In the Annual Report of the Regents to the Legislature, for the year 1792, the following remarks occur.

"When we were preparing, in pursuance of the law, to establish a Medical School, it was signified to us that the Trustees of Columbia College were also engaged in the same business. We have been lately informed that they have accomplished their design. For this reason we have

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* An extract from the minutes of Columbia College, which is on file among the documents of 1792, will serve to explain the proceedings of that institution. On the 14th February, 1792, the following medical appointments were made:

Dr. Samuel Bard, Dean of the Medical Faculty.
Dr. Bailey, Professor of Anatomy.
Dr. Nicoll, Professor of Chemistry.
Dr. John R. B. Rodgers, Professor of Midwifery.
Dr. Smith, (Wm. P.) Professor of Materia Medica.
Dr. Post, Professor of Surgery.
Dr. Hamersley, Professor of the Institutes of Medicine.
Dr. Romayne, (who had resigned by letter his appointment of lecturer on Anatomy, Chemistry, and the Practice, to which he had been named in 1791,) Professor of the Practice of Physic.
Dr. Richard Sharpe Kissam, Professor of Botany.

thought it proper for the present to suspend the exercise of the power with which we are invested, till we shall have had an opportunity of observing whether the institution now established in Columbia College be so efficient and permanent as to answer the intentions of the Legislature, and the expectations of the public, with respect to the cultivation of that branch of useful science."

From these extracts it will be seen, that the medical establishment in Columbia College was considered by the Regents as the State School for the cultivation of medicine and surgery. Such, in fact, it continued to be until the year 1807, and it will hence be proper to notice whatever is interesting in its history.

We shall, in the first place, give a list of the professors (in addition to those already named) and extend it for the sake of convenience to the year 1813, when the Faculty of Medicine in Columbia College ceased, most of its members becoming professors in the College of Physicians and Surgeons. Secondly, mention whatever may be deemed important in its interior and public concerns: and, thirdly, present an account of the number of students attending, and the graduates.

1. *Anatomy.*—Dr. Bailey resigned this chair in 1793, and was succeeded by Dr. Wright Post, who held it to 1813.

2. *Chemistry.*—Dr. Nicoll resigned in 1792, and was succeeded by Dr. Mitchill, who held the chair until 1802; Dr. Stringham was then appointed, and continued until 1813.

3. *Obstetrics.*—Dr. Rodgers held his chair until 1808. Dr. Buchanan was his successor, and continued until 1813.

4. *Materia Medica.*—Dr. Smith, (who had also been appointed Professor of Practical Medicine and Clinical Lecturer) died in 1795. He was succeeded by Dr. Hosack, who in 1795 had also been appointed Professor of Botany. Dr. Hosack resigned in 1811.

5. *Surgery.*—Dr. Bailey was appointed to this chair in 1793. He resigned (says one account) in 1811? In 1811 Dr. Mott was appointed Professor, and continued until 1813.

6. *Institutes.*—Dr. Hamersley resigned this Professorship in 1808, when Dr. John C. Osborn was appointed, who held it until 1813. It would also seem that Doctor Osborn was appointed Professor of Materia Medica in 1808.

7. *Practice of Medicine.*—Dr. Romayne does not appear to have accepted, as in 1792 Dr. Nicoll was appointed Professor. He resigned in 1794, and was succeeded by Dr. Smith. Dr. Edward Stevens was also appointed in 1794, but resigned in 1795, when Dr. Hamersley was elected to the chair, which he held until 1813.

8. *Botany.*—Dr. Kissam resigned in 1793, and was succeeded, as we have stated, in 1795 by Dr. Hosack.*

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* We are indebted for the above catalogue of Professors, and also for the list of graduates (given hereafter,) to the *Catalogus Collegii Columbiani, Neo-Ebora-*

2. In the annual report of the Regents, adopted February, 25, 1795, after noticing the faculty of arts in Columbia College, it is added, that "under the faculty of physic, the Dean is lecturer on clinical medicine in the New-York Hospital; and there are the Professorships of Botany, of Anatomy, of the Obstetric Art, of Materia Medica, of the Institutes of Medicine, of Surgery, and of the Practice of Physic. It gives real pleasure to find that this institution, from the number of the professors, their acknowledged abilities, and its excellent apparatus, can afford the necessary instruction in the healing art."

On the 4th of March 1795, the following resolution was adopted.

Resolved, "That the Vice Chancellor, Mr. Verplanck, Mr. Benson, and Dr. Linn, be a committee to examine the anatomical museum in Columbia College, and report their opinion respecting the same."

On the 13th of March, a statement of the wants of the medical faculty of Columbia College, enclosed in a letter from Dr. Samuel Bard, Dean of the faculty, was read. In this paper, the necessity of appropriations for the Professors of Chemistry and Botany, was particularly urged. The former required provision for an apparatus, and for the purchase of minerals; while the latter needed an anatomical museum. The present professor was in possession of a very fine collection, but it was his private property, procured at a great expense. A descriptive general list of the preparations, casts, and books, belonging to this museum, is then given; and it is added, that its value is estimated to be $5000. This, it is proposed, should be purchased. An annual appropriation of $750 for the professor of anatomy, and of $ 00 for the professor of chemistry, is also asked for.

The Regents lent a favourable ear to this application, and on the 16th of March 1795, ordered the following report to be presented to the Legislature.

"The Regents of the University respectfully report to the Legislature, that since their late annual report, they have received a letter from the faculty of physic of Columbia College, enclosing a statement of their wants, copies of which accompany this report. The statement is so full and precise, that a mere reference to it is supposed sufficient, and it is earnestly to be wished that all the objects specified in it might be accomplished. If, however, the Legislature should judge the public means, at this time, competent only to some of them, the Regents then, with due deference, suggest that in their estimation the purchase of the anatomical

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censis, 1815, *and the Catalogue of Columbia College*, 1826. In both of these we find the following, which, lest it may hereafter become a matter of grave discussion, we prefer noticing at this time. Adjoined to the name of Dr Hosack, is "*M. D. Edinburgh.*" We repeat, that this occurs in *both catalogues*. Now we are in possession of the Inaugural Dissertation of David Hosack, by which it appears that he took the degree of M. D. at *Philadelphia* in 1791. We have also carefully examined a complete list of the graduates of Edinburgh, (in the possesion of Dr. Wing of Albany,) and cannot find Dr. H's name. We therefore, humbly submit, that the addition of "*Edinburgh*" is erroneous.

museum, a provision for its preservation and for constant accessions to it, and an annual stipend to the professor of anatomy, are entitled to be preferred."

The Legislature do not appear to have acted on this during the current session. In 1796, the subject was again recommended by the Regents to the favourable notice of the Legislature, but with like ill success.

On the 23d of January 1797, a memorial of Dr. Wright Post to the House of Assembly, was by that body referred to the Regents, who appointed Mr. Watson, Mr. Van Vechten, and Mr. Silvester, a committee to consider the same.

On the 13th of February, Mr. Watson from the committee made a report, which after being amended, was adopted in the following words:

" That the memorialist about six years ago, undertook a voyage to Europe for the express purpose of procuring the materials necessary for teaching anatomy in Columbia College, upon an extensive and useful plan—that on his return he supplied the said College with a large and valuable collection of anatomical preparations—that he was at great expense in procuring the said collection, all the objects of which are of a perishable nature and require constant attention, as well as expense, for their preservation—that as a comprehensive medical knowledge is of the greatest importance to the community, and depends on a perfect understanding of the structure and functions of the different organs composing the human body, which cannot be acquired without the aid of anatomical preparations, the exertions of the memorialist to procure the aforesaid collection for Columbia College entitle him to the highest applause, and merit the most liberal encouragement. That therefore, in the opinion of the Regents, it will be advisable for the Legislature to grant during their pleasure to the trustees of Columbia College, the annual sum of 500 dollars, to be appropriated to the preservation of the anatomical museum belonging to the memorialist in the said College, and for procuring additional articles thereto; and for an allowance to the memorialist for his services in the care and charge thereof; PROVIDED that all such additional articles which shall be procured with the said monies, shall become the property of the said trustees for the use of the said College."

The secretary was ordered to transmit a certified copy of this report to the honourable the Assembly.

On the 30th of March 1797, " *An Act respecting Union College and for other purposes therein mentioned,*" was passed. The fourth section is in the following words:

And be it further enacted, That the treasurer of this state shall annually, on the first Tuesday of July in each year hereafter, during the pleasure of the Legislature, pay to the trustees of Columbia College, the sum of five hundred dollars, to be appropriated by the said trustees to the preservation of the anatomical museum in said College, and for procuring additional articles thereto, and for making such allowance as they shall judge

proper to the professor of anatomy in said College, for his services in the care and charge of such museum.*

In the *Annual Report for* 1799 it is observed, that " the medical school in Columbia College is advancing in usefulness and reputation. By the provision that is made for the support of a professorship in anatomy, the professor in that department is enabled to make this course of instruction very advantageous. The professors of the obstetrical art, the practice of physic, and the materia medica, still continue to labour for the public good, and receive no pecuniary compensation for their meritorious services."

Annual Report 1800. " The faculty of medicine is also languishing, and stands in need of aid and encouragement."

Annual Report 1802. " There are fifty students in medicine, who regularly attend the several professors, (being four in number) and the clinical lectures in the hospital. The professors discharge their respective duties with diligence and success, as appears from the increasing number of students. The growing reputation of the medical school justly merits the attention and encouragement of the Legislature, as the corporation of the College can afford the professors no compensation for their services "

Annual Report 1804. The Regents again ask for salaries for the medical professors.

[*To be continued.*]

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons of New-York.

Agreeably to an ordinance of the Hon. the Regents of the University of the state of New-York, the public Commencement of the College of Physicians and Surgeons was held at the hall of the College on Tuesday the 1st of April.

The President of the College, Dr. Watts, officiated on the occasion, and delivered an impressive charge to the Graduates. The exercises of the day were commenced and closed with prayer by the Rev. Dr. Harris, President of Columbia College.

The following gentlemen having complied with the Laws of the State, and the ordinances of the Regents, and having passed the several examinations required by the Laws of the College, and publicly defended their respective Inaugural Dissertations, were duly admitted to the Degree of Doctor of Medicine.

1. Samuel Boyd, Jun. A. B. of New-York, on *Jail Fever.*
2. Benjamin Drake, A. B. of New-York, on *Fever.*
3. David A. Edgar, of New-York, on the *Temperaments.*
4. George Griswold, Jun. A. M. of New-York, on the *Motion of the Blood.*

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* Webster's edition of the Laws, 1807. Vol. II. p. 246.

5. Wm. Wilmot Kissam, of New-York, *Tetanus.*
6. Daniel Lake, of New-York, *Hydrocele.*
7. Samuel S. Lawrence, of New-York, *Rheumatism.*
8. Elias J. Marsh, A. B. of New-Jersey, *Nature and Seat of Fever.*
9. John M. Pruyn, of New-York, *Hydrophobia.*
10. Israel Randolph, of New-Hampshire, *Cholera Morbus.*
11. Samuel R. Smith, of New-York, *Mucous Membranes.*
12. Morris Snediker, of New-York, *Operation of Cathartics.*

College of Physicians and Surgeons of the Western District.

The Regents of the University, at their meeting on the 29th Jan. conferred the degree of Doctor of Medicine, on the following gentlemen, students of the College of Physicians and Surgeons of the Western District. The subject of the inaugural dissertation of each is added to their names.

1. John Allen, of Otsego co. N. Y.—*the Remedial Powers of nature.*
2. John O. Armistead, of Jamestown, Va.—*Generation.*
3. Augustus Aspinwall, of Cayuga co.—*Intemperance.*
4. Thomas Blackwood, of Seneca co.—*Dysentery.*
5. Daniel Belknap, Jun. of Orange co.—*Dysentery.*
6. Eli Bois, of Massachusetts—*Burns.*
7. A. W. Bowen, of Herkimer co.—*Observations on Theory.*
8. Isaac H. Brown, of Connecticut—*Necrosis.*
9. Joseph Burbeck, of New-Hampshire—*Inflammation of the Liver.*
10. Aaron L. Cady, of Saratoga co.—*Prevention of Disease.*
11. Amos Todd, of Oneida co.—*Atomic Theory.*
12. James L. Cole, of Herkimer co.—*Local origin of Diseased Action.*
13. Oliver C. Comstock, jun. of Tompkins co.—*Cynanche Laryngea.*
14. O. W. Crumb, of Otsego co.—*Uterine Hemorrhage.*
15. James Davis, jun. of Ontario co.—*Phrenology.*
16. Francis B. Ethridge, of Herkimer co.—*Apoplectic Intermittents.*
17. Beverley R. Fleming, of Prince Edward co., Va.—*Influence of the Alimentary Canal.*
18. Jeptha Foulks, of Prince Edwards co., Va.—*Sophistication of Medical Theory.*
19. John C. Gorton, of Otsego co.—*Colica Pictonum.*
20. Henry S. Harper, of Otsego co.—*Modus Operandi of Medicines.*
21. John Hawks, of Otsego co.—*Acupuncturation.*
22. Charles B. Howell, of Orange co.—*Sternalgia.*
23. Joseph Huntington, of Vermont—*Leucorrhœa.*
24. Lester Keep, of Massachusetts—*Prolapsus Uteri.*
25. Horatio N. Loomis, of Oneida co.—*Medullary Sarcoma.*
26. David Martin, of Albany co.—*Dysentery.*
27. Denison R Pearl, of Oneida co.—*Sympathies of the Functions.*
28. Franklin Ramson, of Erie co.—*Fevers of Buffalo as they prevailed during the summer and autumn of* 1827.

29. George W. Richards, of Ohio—*Vis Medicatrix Naturæ.*
30. Caius C. Robinson, of Waine co.—*Effects of cold.*
31. S. Rodney Stevens, of Herkimer co.—*Pathology.*
32. S. W. Stewart, of Oswego co.—*Venous congestion.*
33. Joseph White, of Monroe co.—*Nervous Derangement.*

The Regents of the University have conferred the Honorary Degree of Doctor of Medicine, upon Dr. LUTHER RIELY, of Harrisburgh, Pennsylvania.

INTELLIGENCE.

The Annual Meeting of the State Medical Society was opened at the Capitol, in the City of Albany, at the usual period, i. e. the first Tuesday of February. It was numerously attended by delegates from almost every part of the State.

PRESENT:

T. ROMEYN BECK, *President.*
LAURENS HULL, *V. Pres.* Albany.
PLATT WILLIAMS, *Sec'y.* Albany.
JONATHAN EIGHTS, *Treas.*
JAMES R. MANLEY.
DAVID HOSACK,
JOHN H. STEEL,
JAMES STEVENSON, Washington.
HARVEY W. DOOLITTLE, Herkimer.
JAMES M'NAUGHTON, Col. Phys. and Surg. Western District.
WILLIAM BAY.
PETER WENDELL.
THOMAS G. EVANS, Orange.
HENRY MITCHELL.
JOHN M'CLELLAND, Columbia.
SAMUEL FREEMAN, Saratoga.
SAMUEL OSBORN, New-York.
CHARLES D. TOWNSEND.
MOSES HALE, Rensselaer.
DANIEL AYRES, Montgomery.
BUSHNELL B. CARY, Oswego.
FREDERICK F. BACKUS, Munroe,
GEORGE COX, Kings.
TEN EYCK GANSEVOORT, Steuben.
CORNELIUS P. HEERMANS, Tomkins.
ALPHEUS S. GREENE, Jefferson.
ELIJAH BAKER, St. Lawrence.

HONORARY MEMBERS.

Dr. Elijah Porter, President Med. Society, Saratoga.
Dr. J. A. Billings, President Med. Society, Genesee.
Dr. Sylvanus Guernsey, President Med. Society, Madison.
Dr. Truman B. Hicks, Warren, a former Delegate, and now a Member of the Legislature.
Dr. Jonathan Mosher, Washington, a Member of the Legislature.

The following gentlemen were elected officers for the ensuing year:—

Dr. T. ROMEYN BECK, President.
Dr. LAURENS HULL, Vice-President.
Dr. PLATT WILLIAMS, Secretary.
Dr. JONATHAN EIGHTHS, Treasurer.

PERMANENT MEMBERS.

Dr. Platt Williams, of Albany. Dr. Pennel, of New-York

CENSORS.

Southern District.

Dr. James R. Manley, Dr. John Watts,
Dr. John C. Cheeseman.

Middle District.

Dr. William Bay, Dr. Peter Wendell,
Dr. Charles D. Townsend.

Eastern District.

Dr. John H. Steel, Dr. Daniel Ayres,
Dr James Stevenson.

Western District.

Dr. Alexander Coventry, Dr. Thomas Spencer,
Dr. Frederick F. Backus.

COMMITTEE OF CORRESPONDENCE.

Dr. Garretson, Dr. John M'Clelland,
Dr. Thomas G. Evans, Dr. Ten Eyck Gansevoort,
Dr. Samuel Osborn, Dr. Laurens Hull,
Dr. Peter Wendell.

COMMITTEE ON PRIZE QUESTIONS AND DISSERTATIONS.

Dr. John Watts, Dr. Jonathan Eights,
Dr. T. Romeyn Beck, Dr. James M'Naughton,
Dr. James R. Manley.

John Lizars, Esq. Surgeon, Edinburgh, and Dr. William Hamersley, of New-York, were elected honorary members.

The Prize Question for the ensuing year, for which the Society offer a premium of $100, is the following: viz.

The History, Causes, and Treatment of Typhus Fever.

The dissertations offered for the prizes to be forwarded to Albany, on or before the 1st of December 1828. They are to be accompanied with a sealed paper, containing the name of the author, and this sealed paper, as well as the dissertation, to be endorsed with the same motto, in order that the name of the successful author alone may be ascertained.

New-York Hospital—From the Annual Report presented to the Legislature on the 18th of February, it appears that its condition, during the year 1827, was as follows:

Remaining on the 31st Dec. 1826,	305	
Admitted during the year 1827,	1926	
Total,		2231

Of this number, there have been

Cured,	1400
Relieved,	198
Discharged at their own request or that of their friends	102
Improper objects,	26

Eloped or discharged as disorderly,	22	
Died,	211	
Remaining Dec. 31, 1827,	272	
Total,		2231

The above includes the insane received into the BLOOMINGDALE ASYLUM. At this institution, there

Remained on the 31st Dec. 1826,	91	
Admitted during the year 1827,	134	
Total,		225

Of these, there have been

Discharged cured,	67	
Much improved,	9	
Improved,	17	
Discharged at the request of friends, not improved,	34	
Died,	9	
Eloped,	4	
Remaining Dec. 31, 1827,	85	
Total,		225

QUARTERLY BIBLIOGRAPHICAL NOTICES.

1. *Pharmacologia; corrected and extended, in accordance with the London Pharmacopœia in* 1824, *and with the generally advanced state of chemical science.* By J. A. PARIS, M.D. F.R.S. F.L.S. &c. with notes and additions. Third American from the sixth London edition. New-York, 1828.

2. *A Treatise on Diet; with a view to establish, on practical grounds, a system of Rules for the prevention and cure of the diseases incident to a disordered state of the digestive functions.* By J. A. PARIS, M. D. &c. 2nd. edition, 8vo. New-York, 1828.

3. *Annual Report of the Regents of the University to the Legislature of the state of New-York, made to the Senate Feb.* 29, 1828. 8vo. pp. 54. Albany 1828.

This is one of the most elaborate and interesting reports yet published by the Regents of our University. It gives a very flattering account of all the Institutions, both literary and medical, which are placed under their superintending care. Attached to the report is an elaborate summary of meteorological observations, made during the year throughout the state, in compliance with an order from the Board of Regents. This is a valuable document, and we have only to hope that a similar one will constitute a part of every succeeding annual report from this respectable body.

4. *Transactions of the Medical Society of the State of New-York for the year* 1828. 8vo. pp. 64. Albany, 1828.

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5. *A Physiological Inquiry respecting the action of Moxa, and its utility in inveterate cases of Sciatica, Lumbago, Paraplegia, Epilepsy, and some other painful paralytic and spasmodic diseases of the nerves and muscles.* By WILLIAM WALLACE, M. R. I. A. 8vo. pp. 148. Dublin, 1827.

From the author, through Dr. Sterling.

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6. *Researches respecting the medical powers of Chlorine Gas, particularly in diseases of the Liver, with an appendix containing a description of the apparatus used for its administration, illustrated by plates.* By WILLIAM WALLACE, M. R. I. A. Second edition, 8vo. pp. 155. London, 1824.

From the author, through Dr. Sterling. We shall notice these two interesting works in our next.

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7. *The Western Medical and Physical Journal; original and eclectic.* Edited by DANIEL DRAKE, M. D. and GUY W. WRIGHT, M. D. Nos. 9, 10. In Exchange.

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8. *The Boston Medical and Surgical Journal.* No. 1. Feb. 8vo. pp. 16. 1828.

It is with extreme regret, that we learn from an editorial notice in this Journal, that the publication of the New-England Journal of Medicine and Surgery, is to be discontinued. This periodical was first started in 1812, and ranked among its contributors and conductors, the most eminent medical men of the Eastern States. Distinguished more by the *value and originality* of its contents, (we speak now more particularly of the earlier volumes) than by the number of its pages, it continued for a series of years to be conducted with a spirit and ability not surpassed by any Journal in the country, reflecting credit alike upon the conductors and upon the profession. Our regrets at parting with it as an old friend, are sincere.

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9. *Medico-Chirurgical Journal.* Edited by JAMES JOHNSON, M. D. No. 15. In Exchange.

OBITUARY.

Died on the 28th day of March, 1828, in the 63d year of his age, SAMUEL BURROWE, M. D. He was one of the oldest of our medical Practitioners, and in his day enjoyed a large share of public confidence and professional character. He practised Physic and Surgery for nearly forty years, having been educated to the Profession under the late Dr. Charles Mc Knight. At the organization of the medical school attached to Columbia College, he was one of the five first graduates in medicine, and the last surviver of them; for many years he was one of the Surgeons of the New-York Hospital, and one of the consulting Surgeons of the Eye Infirmary, from its first establishment in this city.

TO READERS AND CORRESPONDENTS.

1. In commencing a new series of this work, the former Editors cannot deny themselves the pleasure of returning their grateful acknowledgments for the steady and liberal patronage which they have received from their numerous friends and contributors. Six years have now elapsed since this work was commenced, during the whole of which period, they feel conscious of having been actuated by no other desire than that of elevating the medical character, and advancing the cause of medical science in this country. How far they have been successful in the accomplishment of those objects, it does not become them to say, but they have felt enough of encouragement to proceed with unabated zeal in their labours, and to secure still more effectually the great objects held in view, they have associated with them in the editorial department, a number of gentlemen whose character for genius and erudition is too well known to need any commendation. In addition to this, several other distinguished members of the profession have promised the most liberal and extensive assistance. To meet the increase of matter which must necessarily accrue from these arrangements, it will be perceived that the size of the Journal has been considerably augmented, and it is the intention, hereafter, gradually to enlarge it still further, without however *increasing the price of subscription.* With regard to the general plan upon which the Journal is to be conducted, we have only to say, that it will be precisely the same as it has always been. It is to continue to be an *original American Journal*—not professedly, but really such. While, therefore, under the head of Quarterly Improvements in Medicine and Surgery, we shall notice whatever is particularly new and interesting abroad, our main object will be to give a faithful view of what is doing in our own country. There being already published in this country, two Medical Journals, viz. Johnson's Medico-Chirurgical Review, and the monthly Journal of Foreign Medicine, containing the fullest account of what is doing in medicine in other countries, we conceive we should but ill consult the taste or the interest of our readers, by occupying one-third or one half of our pages with imperfect and mutilated transcripts from these Journals. Our subscribers may therefore rest assured, that we shall not resort to this easy and cheap mode of filling up our numbers, and we feel sufficient confidence in our own resources to pledge ourselves to furnish an ample supply of matter, that shall be both original and instructive.

2. Our attention has lately been called to a certain Essay on *Cholera Morbus*, published by a celebrated physician in this city in the year 1791, with a request that it might be duly noticed. We have examined it, and have certainly found it a *medical* as well as a *literary curiosity.* A finer subject for critical dissection could not be offered. For the present, however, we refrain from the task, and hope that circumstances will not render it at all necessary. It is a *bonne bouche*, which we may serve up at some future period, should occasion require.

3. Our next number will contain papers from Drs. J. A. Smith, Stevens, T. R. Beck, &c. &c.